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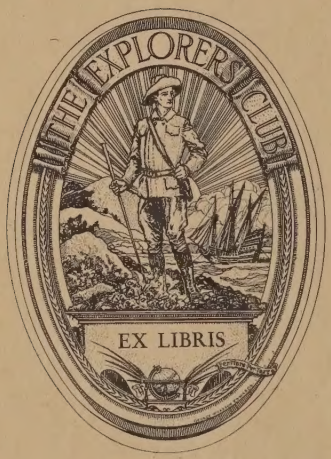

Presented by
F.W.Prentice

A tiger stalks his prey silently through miles of Indian jungle; at last he springs, and kills it with his fangs or a blow of his heavy paw. . . . A leopard kills for pleasure, and his only friend in the jungle is the porcupine. When he kills for food, he drags his kill to the branches of a tree. . . . A herd of deer gathers underneath the trees where monkeys keep a lookout. . . .

An elephant is much less intelligent than is supposed, and is harmless except when "musth," or sexually excited. . . . Hyaenas are the scavengers of the forest, and are protected, while leopards are classed as vermin and carry a price on their heads. . . . Monkeys swim as well as they climb. . . . Only four elephants have ever been discovered dead in the jungle, and what becomes of dead elephants is one of the profoundest of Nature's mysteries. . . .

These are scenes and facts which F. W. Champion observed when he went to India to join the Imperial Forest Service. He has met the objects of his observations face to face, has come as close as man can come to the tigers and the other animals of the Indian jungle. This book is the fascinating record of his adventures, in words and in pictures.

There are 74 full-page illustrations from Mr. Champion's close-up photographs of wild animals.

With a Camera in Tiger-Land

By F. W. Champion. With 74 illustrations. Octavo. Cloth, title in gold, stained top. New York (Doubleday) 1928

(Weight 3½ lbs.) Net ($5.00) $1.25

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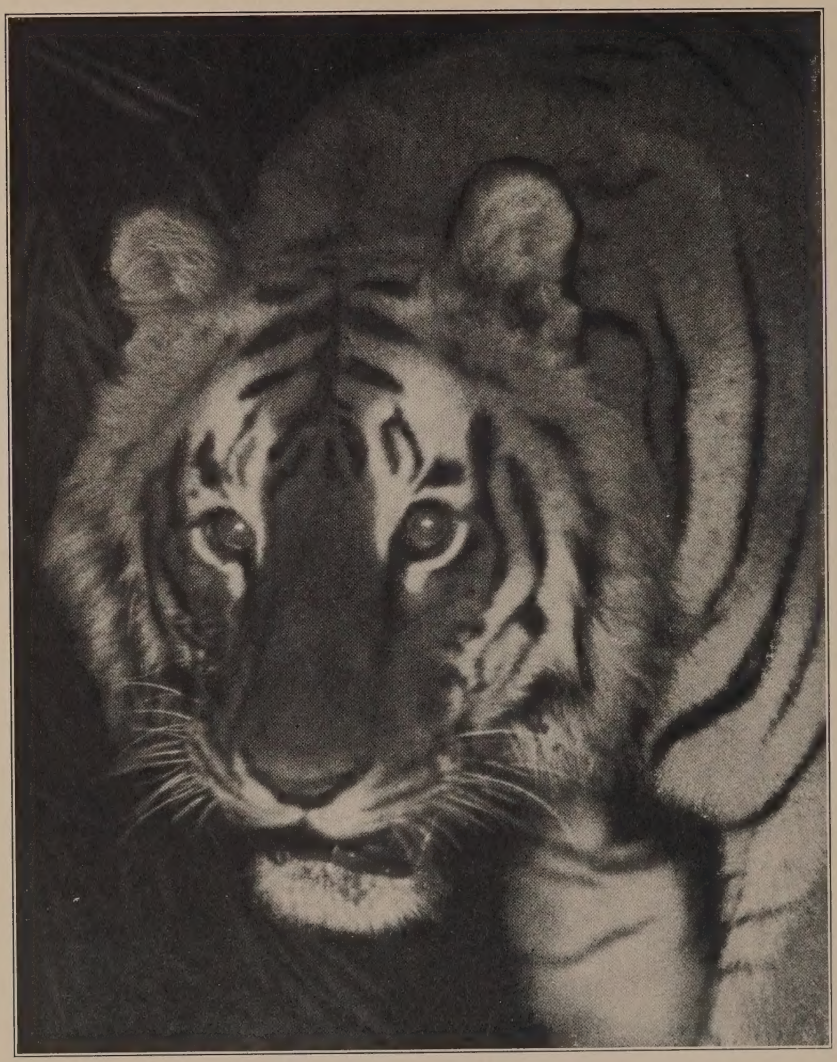
WITH A CAMERA IN TIGER-LAND



"When sunset lights are burning low,
While tents are pitched and camp-fires glow,
Steals o'er us, ere the stars appear,
The furtive sense of Jungle Fear."

—*Lawrence Hope*

WITH A CAMERA IN TIGER-LAND

BY F. W. CHAMPION

M.A. (OXON.), F.Z.S., IMPERIAL FOREST SERVICE
OF INDIA

EXPLORERS
JAMES B. FORD
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GARDEN CITY, NEW YORK
DOUBLEDAY, DORAN & COMPANY, INC.
1928

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FIRST EDITION

This book is affectionately dedicated
to my wife,
who has so ably assisted me
in every part
of its production

"The works of human artifice soon tire
The curious eye; the fountain's sparkling rill,
And gardens, when adorned by human skill,
Reproach the feeble hand, the vain desire.
But oh! the free and wild magnificence
Of Nature in her lavish hours doth steal,
In admiration silent and intense,
The soul of him who hath a soul to feel."

LONGFELLOW

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INTRODUCTION

SO many books have already been written on the subject of hunting big-game in India that there remains little or no room for another. These books have, however, nearly all been written with the object of describing adventures, which culminate in the climax—or anti-climax, according to one's nature!—of destroying the many and beautiful creatures which form the object of pursuit; and, in almost every case, they have been illustrated with drawings, paintings, or photographs of dead animals, which very rarely give a true representation of the denizens of the Indian jungles as they really are. Some very fine books, with African animals as the subject and illustrated with photographs direct from nature, have been published from time to time; but natural history photography has been sadly neglected in India, and I believe this to be the first book ever published which is illustrated throughout with photographs of wild animals, just as they live their every-day lives in the great Indian jungles, away from the ever-destroying hand of man.

Some of the photographs reproduced in this book have already been published in that excellent paper, *The Illustrated London News,* and others in *Country Life, The Sunday Herald, Die Woche* (Berlin), *Die Gartenlaube* (Berlin), *Verlag Scherl* (Berlin), *Die Koralle* (Berlin), *Familie-Journal* (Copenhagen), *L'Illustration* (Paris), *St. Louis Dispatch* (Missouri, U.S.A.), the *Youth's Companion* (Boston, U.S.A.), the Journal of the Bombay Natural History Society (India), etc.

The photographs are all, with the exception of plates xxii and xxxiv, which are explained in the context, of absolutely wild and free animals, and have been taken in the United Provinces. The vast majority have been produced, within the last five years, in the Government Reserved Forests of the Lansdowne Forest Division, which comprises some 300 square miles of dense forest, situated in a continuous belt about 30 miles long and 10 miles wide, at the base of the Himalayan range, and running eastwards from Lachmanjhula, where the Ganges debouches from the mountains into the foot-hill *doons* and plains. The descriptions of adventures are strictly accurate and are based on notes carefully prepared at the time.

For the benefit of those who are unacquainted with conditions in India, I would mention that shooting inside Government Reserved Forests is strictly controlled; but this by no means results in the animals becoming tame, as is said to be the case in the National Parks of America. Indeed, these forests, and those of the neighbouring Divisions, form the great hunting grounds of North India, and there are far more eager applicants for shooting-permits than the area and head of game can possibly accommodate. During the last five years, in Lansdowne Division alone, the following animals have been shot:—Tigers 42, Leopards 32, Bears 17, Hyænas 12, Wild dogs (including puppies) 20, Wild cats 13, Sambar 98, Chital 129, Hog-deer 11, Barking-deer 78, Gural 30, Nilgai 6, Wild pigs 73, Otters 20, Porcupines 22, Pine martens 15, Crocodiles 4, and Pythons 2, so that it is obvious that such heavy shooting does not make the work of the animal photographer any the easier.

The average man in India appears to have little knowledge of photography beyond the most elementary stage, and most

of those who have ever tried to photograph wild animals have had so little success that they have given it up as a hopeless game. This is very largely due to wrong methods and wrong apparatus, and I have added a chapter on Photography at the end of this book, which, I hope, will help would-be animal photographers on to the right road. They must, however, expect many failures, and they will have little success unless they devote the whole of their spare time and energy to a sport which is obviously much more difficult than the mere shooting of an animal with a wonderful rifle, often from a considerable distance. In this connection it may be mentioned that five years' continuous effort has still failed to produce a satisfactory photograph of even such a common animal as a sambar stag, and yet I have often stalked to within a few yards of these magnificent creatures and could easily have shot a score in the same time. It is the same with many other animals, and this is where big-game photography has such a great pull over shooting. It provides all the excitement of the stalk and the pitting of one's wits against those of the ever-alert inhabitants of the jungle; it requires far more knowledge and patience; it gives one an inside acquaintance with the lives of the hunted in a way that shooting can never do; and, above all, it does not involve spilling the blood of creatures with which one has no quarrel and for which all, even the keenest hunters, must have a natural sympathy.

What merit there may be in the pictures illustrating this book is largely due to two factors—the help of that splendid tame cow elephant, Balmati, who is frequently mentioned in the text, and to the excellent flashlight apparatus invented by Mr. Nesbit, of New York. I would thus tender my sincerest thanks to these two sources of assistance, as also to the Indian staff of Lansdowne

Forest Division, of whom Mahendra Singh, the head Garhwali Orderly, and Ishmael, the adopted son of Balmati's mahawat, deserve special mention.

The style in which this book is written has been adopted only after mature consideration. Many readers tend to fight shy of works on natural history subjects, owing to the tendency of scientific writings to be dry reading, full of technical terms and ponderous Latin nomenclature. The other extreme is popular writing, with little or no scientific accuracy, in which very readable stories are written, regardless of the truth. I have therefore, tried to produce a book which may appeal to the non-scientific reader, without in any way departing from the strictest scientific accuracy. The first three chapters have been written with the idea of creating the atmosphere of the jungle, and the remainder of the book is devoted to a detailed discussion of its inhabitants.

Lastly I would mention that I have tried, to the best of my ability and consistent with the limitations of photography as an art, to produce pictures of animals, rather than mere technically good photographs, and for this reason I have excluded many photographs which might otherwise have found a place in this book.

WITH A CAMERA IN TIGER-LAND

WITH A CAMERA IN TIGER-LAND

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Chapter 1

A DAY IN THE JUNGLE

"Though reft of power and kingly sway,
Though friends and home are far away,
I cannot mourn my altered lot,
Enraptured with this lovely spot."

RAMAYANA.

IT is a beautiful morning early in March when, mounted on Balmati, one of the finest of the Forest Department's tame elephants, we start out into the jungle in the somewhat forlorn hope of finding a big sambar stag in a good photographic position. We have been having a long series of blank days and we have but little hope of being successful in our search; but what matter! On such a morning the very act of entering the fascinating jungle, with a splendid elephant as our mount, is ample to make our pulses throb with delight at being alive, and the pursuit of pictures, for once, takes a secondary place in our general delight in Nature and all her beautiful works.

A jungle cock is crowing and the sun is about to rise from behind the distant mountains as we leave the Forest Rest-House, which is perched on a small tree-clad hill, commanding a view

over a splendid panorama of low hills gradually mounting to the first great outer rampart of the mighty Himalayas. A golden light suffuses the sky and the few flecks of cloud are turned a delicate pink by the first rays of the rising monarch of the day. The high hills to the east stand out clear-cut against the sky and gradually assume a darker hue, which deepens to a rich purple in vivid contrast to the ever-increasing light behind them. Then, as if taking the reflection from the clouds, first one peak, then another, turns pink, as at last the golden rim of the sun appears above the horizon. The little clouds, as if affrighted, fade away, and once again the jungle assumes the mantle of day.

Perhaps it is the bursting [1]*shisham* buds, with their vivid green so strikingly reminiscent of an April day in England, so far away, or may be it is the air, with its hint of spring as yet unmarred by the immediate prospect of the coming hot weather, that makes us feel the goodness of life and causes hope to spring up once more in our hearts in spite of our recent failures—surely, on such a morning, in such a place, the goddess of Chance must treat us well.

We proceed slowly, enjoying the view to the full, as we advance up a delightful forest valley, notorious for being the haunt of an aggressive tuskless wild elephant, and into which the sunlight has not yet had time to penetrate. As we turn the first bend the sun has begun to tip the tree-tops and gradually the all-important light creeps down until it touches the grass, thereby completing the scene for the hunter armed with nothing more terrible than a camera. A short distance in front a herd of chital is cropping the grass beneath a belt of *shisham* trees,

[1] *Dalbergia Sissoo*

"A chital hind stamps sharply on the ground"

in whose branches a troop of langoors is doing its best to remove the buds as soon as they swell. We stand and watch, pondering on that curious association between monkeys and deer which is so familiar a sight in the jungle. Surely the deer are fortunate in having a party of monkeys to scatter the ground with tempting buds and fruits, which would otherwise remain out of their reach; and even more fortunate to have such watchful sentinels above them: sentinels who are ever on the alert for the stealthy approach of that deadly foe to all—the cunning panther.

Slowly we approach, permitting Balmati to enjoy juicy mouthfuls of bamboo as we progress, and stopping at intervals so that the deer and monkeys may be deceived into thinking we are merely a wild elephant strolling about his domain. But no! One cannot deceive langoors by this trick: their eyes are far too sharp. Almost at once an old female subjects us to a prolonged stare and then rushes to the tree-tops. The others, realising that something is amiss, leap up into the uppermost branches and depart forthwith, with marvellous bounds, to a more distant belt of trees, where once more they continue their noisy feeding. The chital, at first, seem little disturbed: they have seen a wild elephant many a time before, and, although perhaps it is better not to approach too close, they know an elephant is normally a peaceful creature, with whom they have no quarrel, even though he must always be treated with the respect due to the mightiest animal of the forest. A hind gazes at us earnestly as we turn to one side in the hope that her interest may be momentary. But no: the elephant which rules this valley suffers from a short temper, and she must warn her companions. No sooner the thought than the deed. She stamps sharply on the ground

with one of her forelegs, and a short sharp cry of alarm follows as the whole herd lift their heads to see for themselves what trouble is afoot. Yes: there is that elephant whose solitary life has somewhat warped his generally placid nature. Perhaps they had better go; and off they dash in the direction already taken by the langoors. So on we pass to the sambar ground, eagerly scanning the slopes of the valley as we proceed. All seems quiet and at peace, and then, suddenly, the sound of a breaking bamboo comes from the forest-covered slope to the left. Balmati stops instantly and I feel the hand of the mahawat, who is riding on the elephant's neck in front of me, clutch my boot as he whispers eagerly *"Hathi! Hathi!"* We follow the direction of his gaze—we never allow anyone to raise a hand to point—and there, on a bank above us, in a gap among the bamboo clumps, are the head and shoulders of the makna whose presence causes the jungle workmen so carefully to avoid this valley. His trunk is raised in front of him, as he sniffs the morning breeze to see what manner of creature is coming up the valley. Balmati, after a moment's restlessness, steadies down, and, hastily focussing, I take a photograph. But the scent which is wafted on the breeze does not quite satisfy the makna: elephant undoubtedly, but mingled with it and almost as strong is another scent. Ah! He suspects what it is! A few quick steps in our direction convince him! Yes, he is right; it is—man! Strange that, and very curious! Elephant and man; what shall he do? Leave, or shall he charge that scent, which he associates with the presence of those noisy two-legged creatures who are always disturbing his solitude. No: better to leave! During this momentary hesitation I hastily change the slide and reset the camera, while the orderly grasps a gun in order to be prepared for the emergency which

"The *makena's* trunk is raised in front of him as he sniffs the morning breeze"

may arise. But there is no need: the makna turns sharply, strides off, and is lost to view almost immediately. We follow sadly, for a wild elephant rarely gives one a second chance to approach. Up one steep slope, down another, we go, the makna easily, Balmati following close, but being encumbered, more clumsily; for whereas the wild elephant goes by the easiest route, Balmati has frequently to turn aside in order to avoid damaging us in the bamboo clumps through which her wild relative brushes unheeding. An occasional glimpse of a moving form, ever more distant, rewards us from time to time, or we hear the crashing of bamboos as he continues his hurried progress. At last, after a more than usually difficult climb, we pause on a ridge to locate our quarry; but not a sound, not a sign: the elephant appears to have faded away. In an adjacent tree, a [1]Coppersmith, feeling the first hint of the coming summer, tries a few notes and then pauses. Down the slope a turtle-dove is cooing softly as he sidles towards a coy lady, who promptly hops on to the next branch and then looks back to draw her lover on again. Overhead, in the intensely blue sky, can be seen the form of a distant vulture, soaring in majestic sweeps as intently he scans the jungle below for signs of Death, the provider of his daily bread. But the elephant has gone, so we descend, with many slippings and slidings, to the dry torrent bed, which runs up the centre of the valley and which forms our easiest route. And thus we continue our progress, pausing to watch a stately peacock, with erected train, slowly dancing on the sand before a circle of ladies, who seem sadly indifferent to the charms of their gorgeous swain. It is no use attempting to approach them: the eyes of peacocks are, if possible, sharper than those of langoors, and, even as we watch,

[1] *Xantholaema leucocephala indica*

the peacock sees us. Almost immediately he stops his dancing and, with a rush and swirl of wings, launches himself into the air.

> "With pendent train and rushing wings,
> Aloft the gorgeous peacock springs."
>
> BISHOP HEBER.

We pass on, admiring the contrasting colours formed by the various jungle trees as they make their preparations for the coming heat and drought of summer; some by dropping their leaves entirely, others by producing a new crop; and in all directions we see patches of brilliant flame and pale mauve where a [1]*Dhak* or [2]*Sandan* tree stands in its wonderful mantle of tropical blossom. Then, suddenly, as we are nearing the head of the valley, we see a sambar hind, standing under a bamboo clump and gazing intently at our approaching figure. We stand still, hoping that the inborn curiosity of deer will cause her to approach a little so that she may examine more closely the weird object in front of her. Yes: we are right! After sundry twitchings of her great sensitive ears, she advances slowly, followed by two other hinds from behind the bushes. There they stand in front of us, curiosity written all over their faces, while I expose plates as fast as I can work the camera. Presently Balmati moves a little and then flaps one of her great ears; but the deer, little perturbed, continue to advance, cropping the grass and occasionally lifting their heads to gaze silently at the great looming form of the elephant in front of them. I have now exposed all the plates I can spare and we are wondering what the next move will be when round the corner comes a small stag, showing little of

[1]*Butea frondosa* [2]*Ougeinia dalbergioides*

"There they stand in front of us, curiosity written all over their faces"

the magnificent appearance of a fine specimen of his race. His horns are only a foot long, but already there are signs of the wariness which must be his, if ever he is to grow into a big stag. He gives us one quick glance, followed by a sharp "honk" as the whole party stampedes up the steep hill-side, leaving us confident that we have obtained a really good picture such as does not often fall to our lot.

More than satisfied with our morning's experiences, we return quietly down the valley up which we have come, our thoughts beginning to turn towards the long-deferred meal which is waiting for us in camp. As we approach the place where we had met the wild elephant we ponder idly as to where he has gone and what he is doing now, when, wonder of wonders! there he is again, standing right out in the sun a few yards ahead! This is a chance not to miss, so hastily I expose the only two plates I have left, and, as the shutter clicks with the second exposure, he turns sideways on and kicks with his forefoot a little sand, which he takes in his trunk, and throws gently over his heated body. Puff: a little cloud of sand falls over him as he remains with his trunk held high over his head, enjoying to the full the trickling of the sand down his sides. Five or six times he does this, completely ignoring our presence as we stand and admire his magnificent proportions. But, alas, we have now no plates left, and the tantalising thought of being unable to reproduce that unique picture is so trying that we turn and leave him to enjoy his sand-bath in peace. A short time afterwards we arrive at our camp and are immediately greeted by the news that one of our buffalo-baits has been killed by—so the story goes—the biggest tiger in India! It is now 12.30 p.m. and Balmati is tired after her long morning's work, whereas the other elephant is

sick with an abscess on her shoulder, so we decide to ride out on horses and try for an automatic flashlight photograph. After a hurried meal, once more we are out in the jungle. A short canter of two miles brings us to the spot where the bait has been tied—a junction between two nallahs and a forest road. Yes: the footprints certainly are extraordinarily large, and there is the track made in the grass where the tiger has dragged his prey into the jungle. Leaving the horses with the *sais,* who has been sent ahead, we cautiously follow the track, which takes us up a steep bank on to an undulating piece of ground, lightly shaded by a few trees. On our right is a low hillock and to the left is a small nallah bed, with some lower ground on the further side. In front is a patch of thick grass, into which the tiger has probably taken the buffalo. We pause to look around, and, at the same moment, an excited whisper comes from the orderly "The tiger: the tiger: there, on the other side of the nallah!" We turn and sure enough, a short distance away, is a larger tiger, apparently quite unconscious of our presence! He is walking slowly across an open space, away from his kill, which we now see lying at the base of a bamboo clump, the rich colouring of his winter coat gleaming vividly in the sunlight and in marked contrast to the faded grass behind. His head is lowered, his tail hangs down but for the characteristic tilt at the tip, and his whole attitude suggests repletion and content after a satisfying meal. Slowly he advances until he passes out of sight behind a bush, where he sits down heavily, evidently intent upon continuing the process of digestion in peace. Look as we may, we can no longer make him out, close though he is, so we send the orderly quietly up a tree, which he climbs as silently as any cat, and shortly afterwards he whispers that he can see the tiger lying in the sun in

"There he is again, standing right out in the sun a few yards ahead"

a little hollow behind the bush. Here is a quandary! We have no elephant with us and no daylight camera. Yet, if we approach the kill with the tiger so close in order to arrange the night camera, we may get into trouble, or we may cause him to abandon his kill altogether. The only solution seems to be for one of us to ride back to camp and bring the reflex camera, and Balmati as well should she be available. This I do, leaving my wife, accompanied by a Forest Guard, on the little hillock and the orderly as sentinel up the tree. It is now 2.45 p.m., and I cannot be back for at least an hour, so I leave the watchers to their unusual vigil, alone in the jungle, with the tiger enjoying his siesta a short distance away. The faint hoof-beats of my galloping horse gradually fade away in the distance and absolute silence reigns. It might easily be somewhere in a quiet English wood, instead of in the heart of a great Indian jungle, with a tiger sleeping peacefully within a short distance. A delightful little [1]Fan-tailed Flycatcher hops on to a branch near by to charm the lonely watchers by lifting its wings and spreading its tail as it flits from twig to twig, to the accompaniment of its simple little song. In the distance is the sound of the chopping of a wood-cutter's axe, which makes a gentle "tap: tap" on the still air, and along the jungle road comes a man, driving a loaded pony, and droning a song as he passes. Then a party of monkeys start a violent quarrel among themselves in a neighbouring tree, little knowing that a hated tiger is lying so near. Thus the afternoon gradually slips away, until, at long last, comes the gentle sound made by Balmati's feet as I return after an absence of a little more than an hour. I bring Balmati up the slope as quietly as I can, but I cannot help dislodging a few loose stones, which, to my extreme

[1] *Rhipidura aureola aureola*

annoyance, rattle noisily down to the level ground below. A low order from the mahawat and the elephant sits down to enable my wife to rejoin me on her back. As the elephant rises, the orderly signals from his tree that the tiger is still there, and we begin our gradual approach towards the recumbent king of the jungle. The reflex camera is all ready for instant action and our hearts are in our mouths with excitement as slowly we draw closer and closer. Then, just as a successful stalk seems certain, the orderly starts to make frantic signals, which indicate that the tiger is going away, and we realise that, after all, we must be too late. But on we go. As we pass the orderly he whispers that the tiger, hearing our advance, at first sat up like a dog and then, rising, strode majestically up the slope, over the top, and out of sight. We hastily follow to the ridge over which the tiger has disappeared, but, ere we reach the summit, the cries of sambar and chital on the downward slope proclaim that we are too late and that it is useless attempting to follow any further. Pausing on the ridge for a moment, we look over the hills as they roll away in the distance and bitterly we regret the loss of such a golden chance. Down the green slope in front a langoor swears furiously as the mighty feline passes beneath his tree and then, once more, all is still. But the sight of the sun well on his downward path reminds us that we must not tarry if we wish to erect the flashlight apparatus, so hurriedly we return to the tiger's kill.

Then all is bustle as we set to work to arrange the mechanism, which needs such careful adjustment, in the hope that the tiger will take his own photograph when he returns. After earnest consultation, we decide that the tiger, having been disturbed, will probably come and drag the kill away by the neck to some safer place; so we turn the kill round, with the hind-quarters

"We look over the hills as they roll away in the distance"

pushed into the base of a clump of bamboos, and leave the neck lying invitingly in front for the tiger to seize when he passes through an artistic arch of bamboos, on to which we focus the camera. Near the ground and across the mouth of this arch we stretch a piece of dark-coloured wire, which is to complete the electric circuit when the tiger unknowingly pushes it with his foot on his approach. While we are in the midst of these preparations the chital once more fill the jungle with their alarm cries, which, drawing nearer and nearer, proclaim the return of the tiger, who has apparently merely gone off for a drink and has not been disturbed by us, as we have been thinking. Hurriedly we camouflage the camera with leaves and then, just as we are preparing to depart, we notice that the buffalo's hind-quarters are exposed from the further side of the bamboo clump. This is clearly a mistake, since the tiger, not having been rendered suspicious after all, will almost certainly return to feed from the hind-quarters and thus ruin our picture. But it is too late to change the arrangement now, or the tiger will see us standing over his kill and all will be spoilt; so, quickly placing a few bamboos over the exposed quarters, we depart hoping for the best, but with an ever-increasing doubt in our minds.

And so home, discussing as we go the varied successes and failures of a day which will long remain in our memories. Later, as we enjoy our tea under a shady [1]*Banyan* tree outside the rest-house, we once more watch the sun, this time as he sinks behind the jagged outline of the low Siwalik hills towards the west, in the direction of the Ganges and Hardwar, that most sacred of Hindu cities. Peace rules everywhere and it requires only the sound of church bells in the distance to complete the illusion

[1] *Ficus bengalensis*

that it is a quiet Sunday evening in rural England, instead of being one of those numerous religious holidays which are such a boon to the exiled toiler in the East. But the business of the day is not yet completed: we have still to develop the exposures made on this memorable occasion. Directly darkness falls we set to work and soon we are delighted to find that the camera has been held steady, so that we have become the possessors of a number of negatives which will ever remind us of the adventures of a day so full of thrilling experiences, of failures and successes, and of tantalising moments when we saw the pictures of our dreams just, and only just, out of our reach.

Early the following morning we set out once more on Balmati, this time to bring in the flashlight camera and to try to read the night's happenings by the signs on the ground. Hope and fear alternate as we approach the kill. Eagerly we crane our necks to see the flashlamps, which are always white with oxide after the magnesium powder has been fired. All at once our spirits leap as we see the familiar white deposit, and, there being few jackals or hyænas in that particular place to spoil the chance, we quickly descend from the elephant to examine the tracks and find if our new-born hope is justified. Undoubtedly the kill has been moved a trifle, showing that the tiger has been there, but it has been moved down and not up as we had hoped; and, worse, in the ground near the wire, where are the tell-tale claw-marks, which the tiger should have made involuntarily on being startled by the dazzling flashlight? Perhaps the kill slipped down when the tiger dropped it and the ground is too hard to show footprints? But no: behind the hind-quarters the grass has been pressed down, as by a heavy weight, and almost certainly the tiger has come up from behind and seized those hind-quarters

"Surely that is the tiger's face on the very edge of the negative"

whose position worried us when we were leaving the place the previous afternoon. A hasty glance at the camera shows that, in such a position, the tiger will barely be on the plate and will be partly out of focus. Disconsolately packing up the apparatus, we return and all day we alternate between the hope that we have misread the signs and the almost certainty that the exposure is a failure. Eagerly we await the night, until at long last the great moment of development arrives and the plate drops into the solution, as we sit in the dim red light of the dark-room, hardly knowing what to think. We pause a moment to give the developer time to act and then we peep to see. Yes: a beautiful negative of bamboos arching over where the tiger should be, but, alas, no tiger! Our reading has been right and once again we have failed. But wait a moment. Surely that is the tiger's face on the very edge of the negative? Yes: it is! He has seized the hind-quarters from behind and there is his great face, partly out of focus, and just on the edge of the picture. So, after all, we do obtain some record—poor though it be—to remind us of our mistakes and to teach us to be more careful in future.

Chapter 2

A NIGHT IN THE JUNGLE

"When sunset lights are burning low,
While tents are pitched and camp-fires glow,
Steals o'er us, ere the stars appear,
The furtive sense of Jungle Fear.

For when the dusk is falling fast
Still, as throughout the ages past,
The stealthy beasts of prey arise
And prowl around with hungry eyes."

LAURENCE HOPE.

TO the ardent lover of wild Nature, perhaps the most fascinating of all experiences is a night spent quite alone in the heart of a great jungle, far away from the petty cares and worries of one's everyday existence. By day, many of the most interesting creatures are resting from their wanderings of the previous night, and it is only after the sun has sunk below the horizon that one can see the jungle as it really is at the time when it is awake and full of the throbbing life which is still by day. I will now endeavour to picture in words, with the help of photographs, a night of adventure such as occasionally rewards the nocturnal watcher for the many failures which are certain to be his lot, and for the acute physical discomfort of sitting still, all night, in a cramped position, perched in a tree, in an unhealthy jungle full of malaria-carrying mosquitoes.

"The fire-line which forms a veritable high-road for tigers"

The scene is laid in a great forest, situated on the left bank of the Ganges,. a few miles below where it emerges from the hills, at Lachmanjhula, after its tortuous course from its source, high up in the great Himalayan mountains. The season is well on in May, when the scorching heat of the sun makes one dread the day and long for the comparative coolness of the night—a coolness which, in this case, is intensified by the presence of the great volumes of cold water carried away by the Ganges as the summer sun melts the snow, which has accumulated during the winter on the lower slopes of the great mountains, whose crests are for ever capped with a dazzling mantle of eternal snow.

The time is half-past three in the afternoon, and I am drinking a cheering cup of tea as I sit under a swaying punkah in a quaint forest rest-house, which was built some 40 years ago on the edge of the steep bank of the Ganges. This bungalow commands a fine view of the elevated plateau between the outer ridge of the Himalayas near Dehra Dun and the low Siwalik hills, which mark the edge of the great plains of the United Provinces. I have already spent the previous two nights out in the jungle, in the vain pursuit of a picture of a tiger actually killing his prey, and I am tired from the strain of the heat and two nights' lack of sleep; but, nevertheless, I hear with pleasure the sound of Balmati as she arrives outside the rest-house to take me to my machan, which is already arranged for me, about 2 miles away, in a jungle famous for the number of tigers and wild elephants which it contains.

The numerous articles required for night-photography are soon arranged on the pegs of the *khatola,* which is tied on the elephant's back, and we set out in the blazing sun in the direction

of a fire-line, which runs along the base of the hills to the spot where the machan is arranged. This fire-line is a veritable high-road for tigers and many other animals, so I carry my reflex camera all ready in my hand, in order to be prepared for any opportunity that may arise to add to my collection of pictures of the jungles which mean so much to me.

We have proceeded only a short distance when we notice vultures collecting from all directions and swooping down into an open patch of forest a little way ahead, thereby denoting that Death has passed that way. The splendid eyesight of vultures is a constant source of wonder to the naturalist, who never ceases to marvel at the uncanny way in which these ghoulish birds collect in large numbers a few minutes after Death has struck down some inhabitant of the jungle. And yet, when life actually departs from the poor creature, there may not be a single vulture visible to the weak eyesight of man.

Poets are not always accurate observers of Nature; but, every time I see vultures collecting for a feast, I am forcibly reminded of Longfellow's lines, which so vividly portray the arrival of these scavengers to a feast in the jungle.

> "Never stoops the soaring vulture
> On his quarry in the desert,
> On the sick or wounded bison,
> But another vulture, watching
> From his high aerial look-out,
> Sees the downward plunge, and follows;
> And, a third pursues the second,
> Coming from the invisible ether,
> First a speck, and then a vulture,
> Till the air is dark with pinions."

"Surely this picture of vultures perched on a dead tree is the very personification of Death itself"

As we approach closer, we see the crowd of vultures fighting over a corpse, which is lying on the side of the forest-road. Perched on a dead tree near by is a group of these hideous birds resting after a surfeit of putrid flesh! Surely this group of vultures is the very personification of Death itself, so I expose a plate before we bring Balmati up to examine the subject of the feast. Seeing us advancing towards them, the vultures begin to hop away, and then, first one, then another, flops off to a neighbouring tree, rising from the ground only with a visible effort and after a tremendous beating of wings. All have now gone save one, who, bolder than his companions, remains standing by himself on the corpse, and gives me the chance to produce the picture shown on plate ix.

I now get down from the elephant to examine the corpse and find that it is a full-grown tame buffalo, which a tiger has killed a day or two previously, but has abandoned because he finds it too heavy to drag into the dense forest some little distance away. This augurs well for the night, as the slayer is probably still in the neighbourhood; but we must not tarry for the arrangement of my flashlight apparatus will take some time, and I must be ready seated in my machan by at least an hour before sunset. So on we go along the narrow fire-line, which divides the forest-clad hills on our left from the flat belt of dense undergrowth and grass running down to the Ganges a few hundred yards away. After about half-an-hour we arrive at the spot chosen for the night's operations—the point of intersection between a mountain stream-bed running down from the hills to the Ganges and the fire-line along which we have come. This is perhaps the most likely spot for tigers for many miles round, since the stream-bed

contains a pool of water, a few yards above the fire-line, and this is the only water, except that in the Ganges, available at this—the driest season of the year. For this reason, any tiger passing anywhere near is almost certain to stop for a drink, and past experience has shown that one or other of the three or four tigers inhabiting this forest drinks at this pool about every third day.

As mentioned earlier, I have already sat up the previous two nights, and, although I heard a tiger roar once or twice in the distance on the second occasion, he did not drink, so that my chances for to-night appear to be good. The posts for my flashlamps are all ready, and in a short time I have arranged my apparatus in such a way that it is well hidden by leaves. I suspend a cord from my machan so that I can fire the flashlamps, which work the shutter of the camera, when the great moment for which I am hoping shall arrive. My poor sacrifice—a young male buffalo—is firmly tied by the foreleg to the same peg as on the previous nights, and, after seeing that he is comfortable, with plenty of fresh fodder within his reach, I scramble up to my machan, send Balmati away, and settle myself down as comfortably as possible for my night's watching.

It is now half-past five, and the fierceness of the sun is abating as it sinks low down on the horizon. My machan is fixed about 15 feet above the ground in a [1]*bahera* tree covered with a climbing shrub called [2]*dudhi*, whose white blossoms, although past their prime, still fill the whole neighbourhood with their fragrant scent, and I sit and watch the bees as they buzz their eager way from flower to flower. All around me I see patches of brilliant yellow where [3]Indian Laburnums, those gorgeous

[1] *Terminalia belerica* [2] *Vallaris Heynei* [3] *Cassia Fistula*

"One, bolder than his companions, remains standing by himself on the carcase"

trees of the Indian summer, stand festooned with their beautiful blossoms.

In the distance, I can hear the rush of the waters of the sacred Ganges as they swirl by on their tremendous journey to the sea, and faintly on the breeze comes the sound of the bells of a temple on the other side of the river calling the faithful to evening prayer. My thoughts run idly on as I picture the happy days I have spent photographing the beautiful kingfishers, which frequent the swirling waters so close, and then a rustling of dry leaves near my machan instantly recalls my attention. I lean quietly forward to peep, and I see a number of peafowl stalking along below me, on their way to drink before going to roost high up in the branches of the neighbouring trees. A few minutes later comes a rushing of wings as one after another they mount to their resting places for the night, and then the air is filled with their weird cat-like notes before finally they settle down to sleep. But they are not the only birds which like to announce their presence to the world. From all directions comes the familiar "ko-kur: ko-kur" of the [1]Green-Barbets, who never seem tired of repeating the same monotonous cry from morning till night, and every now and then, late though it is, brilliantly-hued Green-Parroquets shoot past like emereld meteorites. A party of [2]Himalayan white-crested laughing-thrushes, cousins of the familiar [3]Seven-sisters, indulge in a last outburst of noisy babbling; but the night is rapidly drawing in, and the notes of the birds of the day die down one by one to be taken up almost immediately by those of other birds who delight in the hours of darkness. From a tree in front of me comes the deep "Who, who: who, who" of a great owl, and

[1] *Thereiceryx spp.* [2] *Garrulax leucolophus leucolophus* [3] *Turdoides terricolor terricolor*

in three or four directions the [1]nightjars tune up for their nightly concert of notes, which resemble the sound of a stone bounding on ice so closely that they are known in India as "Ice-birds."

A tiger may now appear on the scene at any moment, and I watch with satisfaction the moon gradually rising above the hills to provide me with the light which I must have if I am to be able to watch for the arrival of my quarry, or to enjoy a view of the teeming life around me. It is the night of full-moon, and surely an Indian jungle, bathed in soft silver light, is one of the most beautiful places on earth! Slowly the moon rises above the trees on my limited horizon until at last she comes into full view—

> "As a pale phantom with a lamp
> Ascends some ruin's haunted stair,
> So glides the moon along the damp
> Mysterious chambers of the air."

The wonderful tropical night has now commenced, and frequently the tinder-dry leaves, which carpet the parched ground all around me, rustle as some creature too small for me to see passes by. Then comes a louder rustling from some distance away—a rustling which increases in volume to become a veritable babel of sound. Surely nothing but a party of bears or a sounder of wild-pigs searching for roots among the dry leaves could make so much noise, and yet the sounds seem too deliberate for either of these. Nearer and nearer comes the rustling, as my visitor pushes his way through the jungle towards the pool near by. What can it be? When only a few yards away, but still out of sight, the sound ceases for a moment, evidently because its producer

[1] *Caprimulgus indicus*

"The beautiful king-fishers which frequent the swirling waters so near."
The Common Indian Pied King-fisher (*Ceryle rudis leucomelanura*)

has seen my tethered bait, peacefully masticating his fodder on the fire-line in front of him. Then again he starts to move and gradually advances in a wide circle towards the buffalo until, at last, the bushes are gently brushed aside and a fine tusker elephant emerges into the open, the soft light of the moon making his tusks gleam like two phosphorescent lamps. There he stands by the side of the buffalo and actually touches him with his trunk as presumably he wonders what a buffalo is doing alone in that dangerous place. The buffalo does not seem to be frightened in any way: he has never seen a wild elephant, and probably he mistakes this one for Balmati, who brought me to the machan. But none can anticipate the actions of a wild tusker, and twice have I known a wretched buffalo to be torn limb from limb by angry elephants who happened to meet them in the night, so I hold the cord ready to fire the flashlight, should the tusker lose his temper. But there is no need: he is evidently satisfied by his inspection, and, to my intense relief, because of the dangerous proximity of my fragile apparatus, he passes on. Shortly afterwards I hear him enjoying a bathe and a drink in the pool round the corner. He stays in the water for perhaps half-an-hour, and then off he strolls to make a meal from the juicy bamboo clumps further along the fire-line. Once more all is still but for the rustling of mice among the leaves and the continuous "tonk, tonk" of the nightjars; and then, in the distance, an ever-watchful [1]Wattled Plover suddenly bursts forth with his alarm cry of "Dick-did-you-do-it. Dick-did-did-did-you-do-it." Surely he must have been frightened by some danger passing near, and perhaps the tiger is on the move at last? Even as the thought enters my head, my nerves are set all tingling as

[1] *Sarcogrammus indicus indicus*

the faint moaning "aouh" of the jungle king comes from further along the fire-line, shortly afterwards to be answered by another "aouh" from higher in the hills. Hurrah! A pair of tigers are on the move, and, as this fire-line is their regular route, it seems as though my plans are really going to bear fruit at last. Shaking with suppressed excitement and wondering why a tiger should announce his presence to all in this fashion, I picture him coming along the fire-line towards me as the moans gradually get louder and louder, ever nearer and nearer, until I feel as though I shall burst with excitement if the crisis does not soon arrive. Glancing at my poor bait, I wonder what moral right I have to tie him up to be destroyed in this way; but he is calmly chewing his food and evidently does not realise that these approaching roars are sounding his death-knell. Surely he does not know what a tiger is and has no nerves, or my conscience would not allow me to tie him up in this way? Indeed, even though he does not suffer beyond an instant and painless death, I would never do so if there were any possible alternative. Even as these thoughts pass through my excited brain, the tiger turns a corner in the fire-line, sees the bait, pauses for a moment and then gives vent to a most awful full-pitched roar, which startles me to such an extent that I nearly fall out of my machan on top of him!

The buffalo, startled also, gives a sudden jump, and, horrors! the peg to which he is tied jerks right out of the ground, and off he dashes down the fire-line, away from the oncoming tiger, with the rope and peg rattling on the dry ground behind him as if to mock me with the fact that all hope of my picture is gone for ever. For a second the tiger pauses, startled by the rattling of the peg, and then he launches himself like an arrow in pursuit.

"The beautiful king-fishers which frequent the swirling waters so near"
The Common Indian Pied King-fisher (*Ceryle rudis leucomelanura*)

There is a curve in the fire-line just in front and pursuer and pursued are lost to view almost immediately; but in a moment there comes one long-drawn wail of agony and then silence. The tiger has killed his prey out of my sight, and without affording me even a glimpse of how he did it! My sacrifice of the buffalo has been in vain, and all my hopes of the picture I have been trying for years to secure have vanished—and all because I have been too careless to examine the tying-peg, which must have worked loose after standing in the parched ground for 3 days! Truly "There's many a slip 'twixt the cup and the lip" in this intriguing pursuit of photographs of big-game, and how bitterly I regret the slip, which has cost me this picture so nearly within my reach.

For the next two hours I sit, filled with vain regrets, listening to the rustling of leaves and crunching of bones as the tiger devours his prey. Then he comes to the pool, and I hear the lapping of water as he drinks, but I cannot see him. After he has satisfied his thirst, I hear him approaching towards me, and once more I begin to hope that perhaps he will pass within the field of focus of my camera. But no: he stands behind a bush, within a few yards, and proceeds to call up his mate for a share of what is left of the feast after he has made his own satisfying meal. But I hear no answering roar, and after a few minutes he returns to the kill to make a further meal. I am now tired out from the reaction after the excitement of the night, and doze fitfully until just before dawn, when once more I hear the tiger, moaning gently as he goes off in the direction of some reed-beds, where evidently he intends to lie up for the day.

The dawn is now breaking, and the birds are once more beginning to herald the approaching day; but this time I cannot

take my usual pleasure in the beauty of the hour. Cramped, hungry, thirsty, tired and disappointed at having let so golden a chance slip by, I wait only for the arrival of Balmati to take me back to camp. But the adventures of this memorable night are not yet ended. Once again I hear "crunch: crunch" on the dry leaves and I am beginning to wonder if the tusker is going to appear a second time, when round the corner comes a sloth bear, ambling along with the peculiar gait of his species towards a neighbouring cave, in which he evidently intends to rest during the heat of the day. For a moment he pauses in the exact spot in which my bait had been tied, and precisely in the centre of the field of focus of my camera, and then on he goes. Just as he passes out of the camera's view I realise suddenly, but, alas, too late! that I had only to pull the firing-string to secure his picture and thus compensate myself, at least to some extent, for my dismal failure with the tiger. Yet once more have I lost a splendid chance. Furious with myself at my second failure, and on the spur of the moment, I snatch up the rifle I generally keep in my machan, and vent my spleen by shooting at the wretched bear, whose only fault is that I have forgotten to take his photograph when he gave me the chance to do so! My shot is immediately followed by a pandemonium of howls and half-human cries, as the poor wounded brute, apparently hard-hit, turns several somersaults, and then, half-rolling, half-running, stumbles off to the cave, where he is lost for good. Examining my rifle, I find that I have used the 300 yards' sight for a range of about 20 yards, and then, suddenly, the bitter thought comes to me that I have maliciously and for no possible reason, wounded an inoffensive bear, which I shall now be forced to leave in such a state that either he will endure perhaps many

(*a*)

(*b*)

(*c*)

(*d*)

"The beautiful king-fishers which frequent the swirling waters so near"

(*a*), (*b*) and (*c*) The Common Indian Pied King-fisher (*Ceryle rudis leucomelanura*)

(*d*) The Himalayan Pied King-fisher (*Ceryle lugubris guttulata*)

hours of suffering before he dies, or else, on recovering, he will repay the debt he now owes to mankind by assaulting harmless jungle workmen, whom he might otherwise have left in peace.

Shortly afterwards, Chandramala, my second tame elephant, arrives, and we commence searching for the buffalo's corpse as I relate the story of the night's adventures to the incredulous mahawat, who adds coals of fire to my already fuming rage by coolly informing me that I must have fallen asleep and dreamt the whole story, the buffalo-bait merely having broken loose and found its way home by itself! I regret to say that my reply to his inane suggestion is quite unprintable, and I believe that he himself soon feels more than a little foolish, for the words are hardly out of his mouth before we find the corpse of the buffalo, which has been killed on the fire-line a short distance from my machan and then dragged a little way into the jungle. The wretched beast's neck is broken, and the head has been twisted round with such violence that it is looking backwards. The major portion of the body has been eaten—so much, indeed, that the roars during the night have evidently succeeded in calling up the mate, even though I did not hear any reply. The tracks show that it is the tigress who has done the killing, and that her husband has come up later to join in the feast.

There is nothing more to be done now, so disconsolately I pack up my apparatus and return to the Forest Rest-House, vowing as I go that I will be more careful in future personally to check every detail of my arrangements before I try once more to secure the photograph of my ambition—a tiger in the act of killing his prey.

The next day I leave this forest, carrying with me as my only trophy of the night a sharp attack of malaria, which remains with me for many a long day after; but I do not despair: some day I shall be more lucky, and at least I have spent a night of adventure such as does not often fall to my lot.

"A sloth-bear ambling along with the peculiar gait of its species"

Chapter 3

AN EXTRAORDINARY EXPERIENCE WITH TIGERS

THE tiger adventure related in this chapter shows that, even in the advanced twentieth century, it is occasionally possible to find remote forest tracts in which the wild creatures of the jungle remain unharried by death-dealing sportsmen and where they may be studied under undisturbed conditions. There is one such forest, which we sometimes have occasion to visit, in the foot-hills of the United Provinces. This place has always held out to us possibilities of studying tigers at home, and as they were in India before the advent of firearms made them so extraordinarily shy and cunning that studying and photographing them in their natural haunts becomes an exceedingly difficult task.

The first visit we made to this forest one touring season was at the beginning of the year, shortly after one of the very few sportsmen who come here had been seen by a large tiger as he was sitting in a machan over a buffalo which the tiger had killed. Our luck was, however, right out on that visit, as, although we should have obtained one good tiger photograph but for an unfortunate weak point in our arrangements, we finally had to leave without having made a single exposure, having lost, through illness, our much-beloved fox-terrier.

Our second visit was, on the other hand, far more successful, and provided us with perhaps the most interesting jungle experience

it has ever been our good fortune to meet. We know the country and the habits of the local tigers well, and, on studying tracks on our arrival, we were delighted to find that, on the previous night, a tiger had gone up the jungle road to the head of the valley, which augured well for the future, in that we knew that a tiger going up this valley nearly always returns again within a few days by the same road, his exact length of stay depending upon what luck he has had with his hunting at the head of the valley. An orderly also saw a tiger, accompanied by a large cub, as he was coming into camp. We made our plans, therefore, on the assumption that the tiger would return by this road, and arranged our flashlight apparatus facing up the road towards the head of the valley, tying a buffalo-bait about two miles further down, in case he should by chance miss the camera.

The first two nights we drew blanks. On the third morning, when going to see what luck we had had during the night, we were dreadfully disappointed to see tiger-tracks coming down the road below the camera, which suggested that one of three eventualities must have happened. Firstly, that the tiger had come on to the road below the camera; secondly, that he had seen the trip-wire and had gone round it; or, thirdly, that he had passed the wire, which had broken without completing the electric circuit—all of which had already happened during previous efforts at tiger-photography. A fourth possibility, which, from our previous experience of tigers did not seem in the least probable, was that the tiger had taken his own photograph by flashlight at 13 feet distance, and had still continued to come down the road as though nothing had happened. Yet this was what actually proved to be the case! The tiger, after receiving the flash full in the eyes, and producing the picture reproduced on plate

"The tiger had taken his own photograph by flashlight"

xiv—the type of picture which, incidentally, we had been trying continuously for the previous two years to obtain—had jumped off the road into a neighbouring stream bed, but had come back again some two hundred yards below, had rolled in the sandy road, leaving a complete impression of himself in the dust, and had then proceeded to walk leisurely on as though nothing had happened! This gave us some idea of the extraordinary animal we were trying to photograph. Any ordinary tiger, after facing such a brilliant flash and loud report at so short a distance, would have gone right away at a tremendous pace in the other direction. Our friend, however, was evidently very little perturbed by his somewhat novel experiences, as he continued casually down the road for two miles, until he met our buffalo-bait, which he proceeded to kill and drag into the jungle in the usual tiger fashion.

As soon as we heard that the tiger had done the unexpected and killed the bait, we decided that we would make an attempt to stalk him on an elephant in the heat of the day, so we, that is to say, my wife and I, Atkinson a Forest Officer from Burma, and my Garhwali orderly, Mahendra Singh, started out on Balmati at 2 p.m., hoping that we should find the tiger having his mid-day siesta somewhere near his kill. On reaching the spot where the buffalo had been killed we put the reflex camera together, and, after my wife had received careful instructions as to the handing over of the extra slides in the unlikely event of meeting the tiger, and Atkinson had loaded a rifle in case of trouble, we proceeded to follow up the track left by the carcase of the buffalo as the tiger had dragged it into the jungle. We went very slowly and quietly, but my heart began to sink when I saw that the kill had been taken up a very rocky and steep dry

mountain-torrent bed (*sot*), covered with enormous boulders, which made silent progress for the elephant almost impossible. Also the place was so overgrown with heavy jungle that instantaneous photography seemed to be quite out of the question. Matters brightened up, however, when Balmati began to raise her trunk and point with it in a way which made us almost certain that the tiger was not far off.

But now, our nerves were worked up to a pitch of excitement, and we had not proceeded more than a hundred yards in all when Atkinson whispered "There he is." Sure enough, there he was, about twenty-five yards ahead, walking slowly up the torrent bed, having just left a small pool of water near which he had obviously been lying. We could see only the hind-quarters, just disappearing, and there had been no time to steady the elephant for an exposure, when, by bad luck, Balmati trod on a dry, fallen branch, which broke with such a crash, that there seemed no hope whatever of the tiger remaining in the vicinity any longer. Feeling that the chance was ruined, we then took the elephant up to the place where the tiger had disappeared, in the faint hope of being able to follow him up; but, the ground being so rough and steep as to be impassable for an elephant, we stood by the side of the dead buffalo, which was within a few feet of where the tiger had been lying, and discussed what to do. As we were doing this, my wife saw a slight movement behind some bushes, a few feet above us up the steep hill-side, and then again all was still. We peered hard at the bushes where the movement had occurred and gradually made out what appeared at first to be a splash of sunlight on a light-coloured rock. A further slight movement showed that it was the tiger gazing at us from above, perhaps deciding whether or not he would make one leap straight

"He always came to the conclusion that we were harmless—if somewhat boring—intruders"

down into the middle of the four of us sitting quietly on the elephant's back below him! Even though he was only from 15 to 20 feet away, he was extremely difficult to see in the bushes, and this suggests how often, when one is putting up a flashlight apparatus over a tiger-kill, the tiger watches the whole proceeding all unknown to the photographer, whom he might destroy with the greatest of ease at any moment should he so desire. Luckily, however, no tiger has so far felt this way inclined so far as we are concerned!

We sat for some five minutes watching the tiger in this way as he was sitting on his haunches like a dog, peering at us hard and opening and shutting his mouth at intervals, presumably from the effect of the heat. He then got up, apparently satisfied that we were not to be feared—if this tiger knows fear at all, which is doubtful—and strolled up the *sot*. When he moved, we backed the elephant a little in the hope of getting a better view through the trees, and, as we were discussing the possibility of taking Balmati round and getting at the tiger from above, we suddenly saw him slowly returning down the *sot* again. Down and down he came, nearer and nearer, occasionally stopping to look at us. He was hot, and we could both see and hear him panting, with his mouth hanging down and his sides heaving, his evident desire being to return to the little pool of water near which he was lying when first we appeared on the scene. Finally, he decided to do this, and, going over to a cool patch of wet sand by the side of the pool, sat down with a heavy flop, obviously delighted at reaching his comfortable retreat once more. Thus he lay, 12 yards away from us, with his mouth open, his sides heaving, yawning occasionally, sometimes rolling right over on his side and sometimes holding his head up, until

his eyes began gradually to close with sleep. Every now and then he opened his eyes and looked at us, but always came to the conclusion that we were harmless, if somewhat boring, intruders, who were disturbing his afternoon nap. He remained there for perhaps a quarter of an hour, during which time we exposed all the plates we had, gradually going closer and closer, until the last plate was exposed at a little under 10 yards' radius.

Unfortunately, the lighting conditions were dreadful, with little patches of brilliant sunlight coming through dense shade, to say nothing of intervening twigs and branches; so that the exposures of 1-35th second (the longest one can give off a swaying elephant), with f.5.6, left much to be desired in the resultant negatives. A further difficulty was that Balmati was standing amid fearfully rough boulders, which made her so uncomfortable that she blurred half the negatives by movement. When the last plate had been exposed, a discussion went on—with the tiger unconsciously enjoying his siesta 10 yards away—as to whether he should be shot or not. It seemed cold-blooded murder to shoot, during his afternoon sleep, a tiger who obviously had never done man any harm, and who had given us the eagerly-sought opportunity of taking daylight photographs of tigers. One simple shot, and all the life and movement would have gone from that beautiful striped body and could never be brought back again. Atkinson must have been badly tempted, as he had never shot a tiger; but he managed to fight down the temptation, and it was finally agreed to leave the tiger to live his life in peace so far as we were concerned—although, unless he is more careful in future, his life is not likely to be a very long one. Lucky it was for that tiger that we felt as we did, since, had we not done so,

"His eyes began gradually to close with sleep"

he would probably have been shot when he was first sighted, and certainly when he sat on the rock above us. But think what we should have missed! Few have ever seen a similar sight and few will ever do so, for it is rare for anyone to refuse a certain chance of shooting a tiger, and it is even rarer for a tiger to behave in such an extraordinary way. One often hears people speak of how beautiful such-and-such an animal looked before he died, but surely nobody with a real love of the beautiful in Nature can care for the subsequent skin or head, often grotesquely mounted and bearing no resemblance to the animal before death, when it is possible by photography to obtain life-like reproductions of the actual scenes. Such pictures, hanging on one's walls in subsequent years, bring back vividly, as no skin or head can ever do, what may have been the most thrilling moments of one's life. Surely, looking at the photographs, one can half-close one's eyes and see, not photographs, but real scenes. One can feel again the warm air and hear the hum of the insects; one can see the shifting sunlight as the mid-day breeze stirs the leaves and throws the tiger into alternate light and shade; and, lastly, one can see the living, breathing tiger as he lies, having no final vision of the magnificent king of the jungle lying in his death agony to mar the pleasure of a wonderful experience.

When all the plates had been exposed—and how we longed for more!—we continued to discuss what to do next; until, finally, the tiger got up and strolled off up the *sot* bed. My wife and I then dismounted from Balmati to arrange the flashlight apparatus, while Atkinson kept watch on the elephant a little way forward in the direction in which the tiger had gone. We hadn't been doing this for more than five minutes before Atkinson called

out: "Look out: he's coming back," but the sound of his shout turned the tiger, who retreated again, apparently to sit down in the bushes a little further off. We could not help making a great deal of noise arranging the flashlight apparatus, but we hoped that the tiger would not be greatly concerned, considering his casual behaviour so far, and we left the place after about an hour. The flashes were fired off in the evening, and when we returned the following morning we found that the kill was just as we had left it, pointing to the probability that the tiger had returned to his food, fired off the flashes, and hence deserted it. We therefore intended to abandon the kill as of no further use, but, on developing the plate the same evening, we found a fine picture of the buffalo's carcase—and nothing else! What fired off those flashes I cannot say, as no living creature could have done so without having its picture recorded on the plate, and, as has just been said, there was nothing there!

It now appeared that the tiger had again done the unexpected and had not returned; so, as he had, apparently, not been scared by the flashlight, we decided to make a further atempt at daylight photography the following day. At 2 p.m. we repeated our cautious stalk to the kill, but this time the tiger was not there—neither was the dead buffalo! The tiger had, presumably, returned in the night, cleared out the entrails—a tiger is a first-class butcher—and carried off the remains in such a way as to leave no trace of where he had gone. We searched for at least an hour with no success and were just on the point of leaving when my wife noticed a slight disturbance on the fallen leaves, which, on being followed up, proved to be what we had been seeking all the afternoon. Eagerly we followed up the track on foot, as the slope was too steep for the elephant, and finally, after having gone on the wrong

"The last plate was exposed at a little under 10 yards' range"

scent several times, came upon the remains of the kill, which had been alternately carried and dragged to a distance of over 100 yards and up a slope of about 60 deg. There was no sign of the tiger, so we again fitted up the flashlight camera, hoping that we had not made too much noise in doing so.

The next morning we found that our good luck continued. The flashes had been fired, and, extraordinary to relate, the kill had again been removed a short distance, where it had been practically all consumed. It appeared that the tiger had returned, fired the flashes, removed the kill, and proceeded to eat it calmly a few yards away, as though nothing had happened. This seemed extraordinary enough, but the resultant negative was to prove even more extraordinary, in that it did not portray the same tiger at all, but a large cub of some 6 feet length instead—see plate xviii. It is, of course, impossible to say exactly what happened, beyond the fact that the tiger walking down the path is the same tiger who killed the buffalo and whom we photographed by day—as is clear from a study of the facial markings in the photographs—but it seems probable that this tiger removed the kill up the steep slope from its original position, as it is very unlikely that the cub could have done this. The cub then came before the tiger to the kill in its new position, fired off the flashes, and bolted. The tiger, arriving later, made his meal undisturbed. This theory was borne out by the fact that, on the day of our arrival in this forest, my orderly had reported that he had seen a tiger and a large cub near the side of the road. It seemed an extraordinary thing for a male tiger to keep a large cub with him, but the animal who killed the buffalo and whose photograph we took in the daytime was very obviously a male, unaccompanied by any cub at the time.

After this final episode we had to leave these fascinating jungles for the time being, hoping as we went that these tigers would be left in peace, perhaps to provide us with further adventures when next we had occasion to visit the place. It so happened that I had to come to this spot again at the end of June the same year and further adventures with these tigers are described in chapter 7. It transpired that there was a tigress belonging to the same family, and her picture appears on plate xxxii. The association between the tiger and the cub was thus explained, in that the tigress happened, for some reason or other, to be absent at that particular time, so that the cub was left in the charge of the father.

The letter-press and photographs included in this chapter were published in the *Illustrated London News* during 1926, and two readers of that famous paper sent me letters suggesting ingenious explanations for the curious behaviour of this tiger. One of these letters, written by an English clergyman, suggested that the tiger was blind, on the grounds that one of the eyes in the newspaper reproduction appeared to have a film over it. The cub, therefore, kept company with his disabled father in order to provide him with meat! I am sorry to say that this explanation will not hold. The tiger was in perfect condition in every way, and the original photograph shows no sign of any film over the eyes. If this, or any tiger, went blind it would starve at once, even if it were not killed by its own son, since there is no charity in Nature, where the survival is always to the strongest and the fittest.

The other suggestion, made by a lady, was that the tiger had been caught as a cub by English "Tommies" and had been let loose again when it had grown too big to manage and after

"It did not portray the same tiger at all, but a large cub of some 6 feet length instead"

it had lost all fear of human beings. This solution, also, is extremely improbable because this tiger lives in a dense forest at least 100 miles from the nearest cantonment containing British troops, and has, almost undoubtedly, spent the whole of his life in the same place.

NOTE

The first three chapters have been written with the idea of trying to give a general impression of the charm and fascination of the great jungles of Upper India.

The remainder of this book will now be devoted to a discussion of the mammals inhabiting these jungles, each animal being considered according to its proper place in the classified zoological table printed in Appendix I.

A party of *Macacus rhesus* feeding on shisham buds.

Chapter 4

MONKEYS

"His hide was very mangy, and his face was very red,
And ever and anon he scratched with energy his head,
His manners were not always nice, but how my spirit cried,
To be an artless bandar loose upon the mountain side!"

KIPLING.

THE order Primates comprises Man, Monkeys and Lemurs. Man does not come within the scope of this book, and no species of Lemur is found in the Himalayan foot-hill forests, so we are thus left with only the Anthropoid apes and the true monkeys. Among the former the genus *Hylobates* or Gibbons are the only representatives of the family at present to be found in India proper, although fossil forms, allied to Chimpanzees and Orang-outangs, have been found in the Siwalik hills of the Punjab and the United Provinces. The Hoolock or the White-browed Gibbon (*Hylobates hoolock*) is common in Assam and Burmah, where its peculiar double call is familiar to all who have lived in those places; but this interesting animal is not found anywhere in the Himalayan forests—much to the regret of those naturalists whose wanderings are confined to such areas.

The common monkeys of India are all included in the two genera of *Macacus* and *Semnopithecus,* the former of which, according to Blanford's *Mammalia,* contains 9 species and the latter 14. In the jungles of the United Provinces these 23 species are

reduced to 2—the Common Brown or Bengal monkey (*Macacus rhesus*) and the Langoor (*Semnopithecus entellus*)—and I propose to confine my remarks to these two familiar animals. The Himalayan forms of both these species also probably occur in the higher foot-hills, but the differences are very largely of a museum nature and are probably the result of different climates, so that no separate remarks are called for in a book of this type.

India has many curses and among these monkeys take a prominent place. From time immemorial they have been regarded as more or less sacred by the pious Hindu, who is forbidden by his religion to destroy them. The result is that, in many towns, such as Hardwar, Muttra, and Benares, monkeys have increased to such an extent and have become so bold that they are now a positive pest. Crops, fruit, and shops are all pilfered with equal impunity, and, at one or two places, monkeys will even enter the carriages of trains waiting at railway stations and demand food from the passengers. In these big towns monkeys have no enemies, since even Mohammedans are somewhat chary of destroying them with the result that, despite the epidemic diseases from which they suffer from time to time, their numbers have become so enormous that deportation is the only remedy. Train-loads are taken away to distant jungly places at intervals; but the arrangements for such journeys are extremely unsatisfactory and the poor beasts must suffer terribly on the way. Indeed, many expire before the train reaches its destination, and many others—unsophisticated town monkeys that have never known of leopards—rapidly fall victims to these felines, who are only too pleased to have train-loads of succulent monkeys dumped from time to time in their hunting grounds! Those of the deported monkeys still surviving soon flee from the jungles in

A langoor perched in a tree

which they are deposited and settle in the neighbourhood of the nearest cultivation, where once more they start pestering the poor villagers. Surely it is a curious religion that regards the monkey as a sacred animal and yet can ill-treat him to any extent, short of actually taking his life. It is the same with the sacred cow. Many and many a time may a poor over-worked and under-fed bullock or buffalo be seen lying on the roadside—deserted by his Hindu owner as no longer capable of working like a slave. The wretched beast's day is done, but the Hindu must not outrage his religion by painlessly putting an end to the poor creature's sufferings. Oh no! The bovine tribe is sacred: therefore such an animal must be left to die a terrible death, scorched by the sun, parched with thirst, and surrounded by a ring of ghoulish vultures, crows and jackals, until one, bolder than the rest, jumps on the dying animal and pecks out his eyes while he is still alive. This is the signal for the others, who will all leap in to commence their feast on the miserable quadruped—often long before life has expired! Thus

> "The mangled form that ere it dies
> Becomes the jackal's prey."

Inside forests, monkeys never increase to the same extent as in towns. They do a great deal of damage to the buds and flowers of forest trees, but they have to work fairly hard to find their food, and their numbers are always kept in check by leopards, with whom they wage a war of eternal hatred. Crocodiles, also, destroy a good many monkeys, seizing them as they come to the pools to drink at frequent intervals during the day. Both the langoor and the brown monkey are gregarious animals and are very rarely found singly. Large parties of 30 or 40 are

frequently seen together and the ground often becomes covered with the leaves and small branches which have been broken off when a troop of feeding monkeys has passed that way. They are wonderfully agile and climb to the top-most twigs in the search for the choice swelling buds of which they are so fond. Plate number xix shows a party of *Macacus rhesus* feeding in this way, and it seems marvellous that such tiny twigs can support so easily the by-no-means inconsiderable weight of these active little beasts.

Both species drink frequently and the brown monkey will readily take to water. Indeed, Dunbar-Brander records a case in which he saw an old male take a header, from a height of 20 feet, into a jungle stream and swim a pool. These monkeys all drink by squatting down flat at the side of the pool and bringing their mouths down to the level of the surface of the water. To the best of my knowledge, no case has ever been recorded of a wild monkey attempting to raise water to his mouth with his hands, although he must be perfectly capable of doing this—an action which would remove a good deal of the risk attendant upon drinking from a pool infested by crocodiles.

Monkeys have extremely good eyesight, in which respect they are probably excelled only by peafowl among all the creatures of the jungle. References to this are also made in other chapters: indeed, the lives of most of the dwellers in the forest are so intermingled that it is difficult to write about one animal without making constant references to its relations with others. This is one of the reasons why the study of wild creatures in their natural haunts is such an absorbing hobby, and why works like Rudyard Kipling's classic *Jungle Books* never lose their appeal to all who take any interest in the lives and doings of *Ferae naturae*.

(*a*)

(*b*)

Langoors (*a*) Solitary contemplation
(*b*) The morning toilet

An animal in a Zoo may be admired for its symmetry of form or beauty of colouring; but it is one single individual, doomed to spend a monotonous existence in captivity—shut off by the cruel iron bars of its cage from its fellow creatures and from the life of freedom which is its birthright. If a day spent in a zoological gardens is full of interest, how infinitely more interesting is a day spent "far from the madding crowd," in Nature's own zoological gardens—the great forests of India.

But let us return to monkeys, the subject of this chapter. These intelligent beasts hate and fear tigers, and, above all, leopards, which are by far their greatest enemies. Both langoors and brown monkeys will make their peculiar alarm cries if a dead leopard, or even a leopard skin, be carried through their domain, so it is obvious that they will become even more agitated when one of these dread felines appears on the spot in person. Indeed, my experience is that the harsh guttural alarm cry of the langoor is the most reliable of all the varied notes of alarm made by the birds and beasts of the jungle. True it is that the langoor will sometimes call once or twice for a man or a dog, but his eyes are very sharp, and, unless a tiger or leopard be within sight, he will soon cease to be alarmed and stop his cries. After years of careful study I am absolutely convinced that, if a langoor calls more than four or five times, in almost every case he is making the alarm cry because he can actually see a tiger or a leopard. Blanford in his *Mammalia* does not agree with this opinion, stating that he has often heard the cry caused by the sight of deer running away and that he believes it frequently to be due to the monkeys catching sight of man. This may be so if the langoors call once or twice only, but deer never run away without cause, and the cause, although unknown to Blanford, was probably the approach

of a leopard which the langoors' keener eyes had enabled them to see. In the same paragraph the above-mentioned author says, "It is marvellous to observe how these monkeys, even in the wildest forests, where human beings are rarely seen, appear to recognise men as their friends, or at least, as their allies, against the tiger." If the langoors recognise men as their friends or allies why should they call as though at an enemy? Beyond one or two calls, probably as the result of surprise, langoors never use this cry for men, even though the latter may chase them or even shoot at them, and it is difficult to understand how a naturalist of the standing of Blanford came to make such a mis-statement of fact.

Common and familiar though monkeys are, they are by no means so easy to photograph as one would imagine. A langoor will often let one pass quite close on foot or on a tame elephant, provided that one continues straight on without paying any particular attention to him, but he is off in a flash the moment one stops. It is fairly easy to make exposures on langoors perched in the branches of trees; but, in such cases, the bright sky shining behind the branches of the tree nearly always results in halation, and I have never yet succeeded in making a really satisfactory negative in such a position. Langoors often come down to the ground to feed and drink, and they walk along in a peculiarly stiff way with the long tail curved over the back like a Cupid's bow. In such cases they should be comparatively easy to portray photographically, particularly as they are not in the least intolerant of the bright sun, but I have yet to obtain the picture I desire. Both species of monkey could easily be photographed in places where they have been half-tamed by priests. Such photography, however, has never appealed to me when the truly wild animal

Plate XXII

Portrait of a young langoor which had lost its mother

is always available, provided only that I am clever enough to outwit him.

On one occasion I knew of a young langoor which had lost its mother and which took to frequenting one of the forest villages bordering on my charge. This beast, probably unable fully to provide for itself, formed the habit of coming into the village at intervals in search of food, and his portrait appears on plate xxii. The coal black face, the lustrous eyes, and the hair fringe, which looks as though it has been trimmed by a barber, are clearly pictured in this photograph, thus giving one an idea of why this animal is often referred to as the sacred Hanuman Monkey. This is due to the fact that the face of the langoor is supposed to resemble that of the Monkey God, Hanuman, who also possessed a long tail. Nevertheless, in some parts of India, *Macacus rhesus,* which has only a short tail, is considered sacred, whereas the langoor is not. Many Hindus, however, particularly among the lower classes, seem to be extremely vague on the subject. The usual version of the story is that Hanuman was the son of Pavana, God of the winds. His strength was enormous, but, in attempting to seize the sun, he was struck by Indra with a thunder-bolt, which broke his jaw (hanu). Thereupon his father shut himself up in a cave and would not let the breeze cool the earth until the gods had promised his son immortality. Hanuman aided Rama in his attack upon Ceylon and, by his superhuman strength, mountains were torn up and cast into the sea so as to form a bridge of rocks across the straits of Manar.

Langoors must be one of the most active species of all the monkey tribe, and the leaps they frequently make from tree to tree are positively astounding. A 20-foot leap, with a drop of 30 or more feet, seems to be nothing to them, and they launch

forth without a moment's hesitation and apparently without any preliminary reconnoitring of the landing place. Yet I have never seen one fall, although a crash often seems to human judgment to be inevitable. I have heard stories of langoors having been found impaled on the vertical stumps of cut-bamboos, on to which they are supposed to have fallen when missing a leap, but I doubt if these stories have much foundation in fact. Certainly, the old adage "Look before you leap" does not seem to apply to these agile creatures, which must surely be among the world's finest gymnasts.

The babies of both species are carried about by their mothers, to whose breasts they cling like leeches. The mothers do not appear to be in any way hampered by the presence of a clinging babe and continue their marvellous leaps as though the child were not there at all. They land with a crash at the end of a leap and one would expect the baby to be terribly bruised and knocked about; but, as this does not happen, the only conclusion is that the babies' bodies must be as tough as rubber and quite immune from ordinary knocks and bruises. Langoors, when chased by dogs, sometimes seem to lose their heads, and, when an aerial crossing from tree to tree appears quite simple, they will often descend to the ground, along which they travel with great bounds. This seems a somewhat foolish thing to do, as many must be caught by tigers and leopards during such excursions to the ground, whereas they would be much safer if they would only remain in the tree-tops. Dunbar-Brander records that langoors have a wonderful speed for a short distance when on the ground and that they can easily beat any but a very fast dog. I have a Labrador, however, who has caught several brown monkeys, and I believe that she could also catch langoors. When tackled by

(*a*)

(*b*)

Macacus rhesus

(*a*) Walking along a narrow path
(*b*) Monkeys often help each other with their toilet

dogs, monkeys fight viciously, but often in a misdirected manner, as their own method of fighting is to attempt to seize the other monkey's fingers. Occasionally a large male langoor will attempt to molest village girls, but fortunately this does not often happen or monkeys would be an even greater pest to the Indian villager than they are at present.

A curious habit of the Bengal monkey may be observed in the elevated *doon* forests of the Himalayan foot-hills. In such localities the temperature often falls below freezing point on winter nights and the cold is intensified by a chilly damp white mist, which persists for two or three hours after sunrise. The local monkeys feel the cold intensely and a whole party of ten to fifteen individuals sometimes huddles together at the top of a tree for the sake of mutual warmth. They then hug each other with their arms and legs, giving the appearance of a huge ball caught in the branches of a tree, and I should imagine that the position of the inner monkeys, even if warm, must be distinctly uncomfortable.

Chapter 5

TIGERS (GENERAL)

"As the dawn was breaking the Sambhur belled—
Once, twice and again!"

KIPLING

WHAT delightful memories these two simple lines of Kipling conjure up to all who have had the good fortune to penetrate into the heart of India's mighty jungles! Indeed, there is many a man now serving in India whose thoughts were first attracted to service in this "Land of Regrets" by the hope that he might some day get opportunities for indulging in the sport of kings—the chase of that most magnificent creature, the tiger. And to many men still serving, under conditions so different from those of one or two decades ago, the one bright spot in an otherwise tiresome and unappreciated toil of duty is the fact that the Indian jungles are as fine as ever they were, and that, in these post-war days, tigers are, in many parts of India, nothing like so scarce as is generally believed to be the case. In many places, indeed, the number of tigers seems to have increased during recent times. This is accounted for by the fact that, during the war, all officers who could possibly be spared were away on active service, and those who remained were in many cases doing two and three men's work. Thus tigers were very little hunted during the war years, and, since then, many of the old hands have retired, and the newer generation has often not a fraction of the opportunities which

were ready at hand for their predecessors of only a few years ago.

In my own case the very word "tiger" has always thrilled me ever since I can remember, and was the deciding factor in my choice of a career in the East. I began to try to take natural history photographs when I was about 12 years old, my inspiration being the beautiful bird pictures of Richard and Cherry Kearton, and the flashlight photographs of the German, Schillings. My first subjects were the familiar tits which used to visit the pieces of fat and cocoanut placed in our garden by my parents, and I first came to India in 1913 with the definite ambition of trying to produce photographs of tigers. The war broke out, however, a few months after my arrival in the country, and, owing to the interruption caused by a period of active service and the general upheaval after the war, it was not until 1921 that I first obtained definite opportunities of achieving my long-cherished ambition. During 1921, 1922 and 1923 I tried in various ways to obtain these photographs by daylight; but all my efforts proved futile, partly because I still used a rifle occasionally, but mainly owing to the nocturnal habits of tigers. So, finally, I decided to take up flashlight photography and to give up shooting entirely, the result of this dual decision being that I at last obtained the pictures which I had so long sought for in vain. A fond relative has now suggested to me that a suitable title for this book would be *From Tit-mouse to Tiger* on the analogy of *From Sepoy to Subadar* (the one-time set book for the Higher Standard Hindustani examination). Certainly, it took a full 20 years to arrive at the tiger from the tit-mouse, even though it took the old-time subadar still longer to reach his rank from his starting point as a sepoy.

So much has already been written on the subject of tigers that it is very difficult to find anything fresh to say on the question of hunting them to kill; but hunting with a camera gives one many an opportunity of studying the habits of animals which the ordinary shikari does not get. It is to be hoped that the experiences related in this book may help a little to elucidate one or two doubtful points in the life-history of this—to me, and many another, one of the most interesting animals in the world. Among the numerous books dealing with tigers, certainly the most informative and accurate is *Wild Animals in Central India,* written a few years ago by A. A. Dunbar-Brander, late of my Service, and before relating my own experiences, I propose to give a résumé of the facts and theories published in this and other well-known books and to make comments where I consider necessary.

Firstly, there is the hotly-debated question of the length to which tigers grow. Records of tigers 12 feet long are frequent in old books on shooting, but it is probable that many of these lengths were taken from skins after they had been removed from the carcases. It is also very rarely recorded how the measurements were taken, and, even though it is possible that 12-foot tigers may have existed years ago, when they were much less hunted and were more wide-spread than in modern times, it is moderately certain that, except possibly for an occasional freak, no tiger measuring 12 feet is at present living within the Indian Empire. The largest tiger of which I have any personal experience was one shot by the party of that well-known shikari of the United Provinces, Mr. W. L. Stampe, of the Indian Service of Engineers (P.W.D.), which measured 10ft. 9ins. round the curves and 10ft. 2ins. in a straight line between pegs. Twice did this tiger return to kills over which I had set my flashlight apparatus, but I did

not obtain a picture on either occasion. I also met him once in the daytime at close quarters, but, despite these three chances, I failed ingloriously to obtain a picture of this—one of the finest tigers recorded in the United Provinces for many years.

The eyesight of tigers is well known by all who have hunted them to be quite exceptional, particularly at nighttime, when the pupils of the eyes increase in size to an extraordinary extent. This is apparent in the eyes of the animal figured in the frontispiece, which was photographed at night by flashlight at 1-200th of a second, such an exposure being so short that the pupil had no time to contract from the effect of the brilliant light. Had this animal been photographed in a bright light by day, the pupils would have appeared far smaller than they do in the picture in question. Anyone who has ever wandered about in a dense forest on a dark night, when one cannot even see one's own hand held in front of one's face, must have some conception of the marvellous eyes of an animal which can move about absolutely silently and even stalk up to its prey without making a sound, in a way which, to human comprehension, seems almost impossible. Yet the tiger does this by habit in places where, to all intents and purposes, there is no light, and one wonders at times if these nocturnal Carnivora are not possessed of some sense which in human beings has become entirely atrophied.

The sense of hearing, also, is extremely acute and many a man, when sitting in a machan over a tiger-kill, has lost his chance of a shot by such a slight movement that the noise made appears to him to be negligible, although to the listening tiger it may be the reverse, and may give him warning of the presence of his deadly foe. There is a certain amount of disagreement as to the sense of smell possessed by tigers, some holding that it is

strong and others weak. Major-General Wardrop in his book *Days and Nights with Big Game* says that he never allows bare-footed men to go near a tiger-kill, for fear that the tiger should smell them, and both Martin Johnson and Radclyffe Dugmore adopt similar or even more elaborate precautions when photographing lions in Africa; but I have never worried about this in my flashlight work and my experience is that it does not make the slightest difference so far as tigers are concerned. Tigers often eat their kills in an absolutely rotten condition, when the stench is positively appalling, and numerous vultures, jungle fowl, pigs, jackals, and many other creatures visit the kill when the rightful owner is absent, so that, in any case, there would not be much opportunity to pick out the scent of a human being's bare foot from all these other scents. A tiger never seems to smell a man sitting in a machan above him and my own opinion is that his sense of smell is practically non-existent. Indeed, it would appear to be a definite provision of a wise Nature that this should be so, or a tiger would become such a menace that he would rapidly destroy all other creatures. The following opinion, quoted from *Records of Sport in Southern India,* by General Douglas Hamilton, bears out this statement. "I maintain that if tigers added the power of hunting by scent and of stalking up-wind to their wonderful sight and keen sense of hearing, to say nothing of the absolute noiselessness of their movements, they would seldom or never fail in securing their prey, and this would be against the law of Nature, which always allows a certain number of chances to the weaker animals—otherwise they would be exterminated."

Tigers, unlike leopards and most cats, are very fond of water and in the hot weather often lie partly submerged during the

heat of the day. They are strong swimmers and in the tidal waters of the Sunderbans are often to be seen swimming across comparatively wide stretches of water. It has been suggested that this fondness for water and intolerance of heat support the argument that tigers are but comparatively recent immigrants into India from the colder climates of Siberia and Central Asia.

In the United Provinces and elsewhere the sexes do not appear to occur in equal proportions, about twice as many tigresses being shot as tigers. This may mean that tigresses are easier to circumvent than tigers, even though my experience is that they are certainly not easier to photograph; but it has been suggested that the males often fight among themselves out of jealousy, thus keeping their numbers in check. The number of cubs normally seen with a tigress is two or three, although it would appear that some of the cubs in the bigger litters are eaten by the parents—presumably to prevent a possible shortage of food as a result of too many tigers in a limited area. Major-General Nigel Woodyatt thinks it is possible that about six cubs are born at a time and quotes two cases of tigresses being shot, each of which had six unborn cubs inside her. The Hon. J. W. Best, in his *Indian Shikar Notes,* records another case of a tigress containing seven unborn cubs, whereas he has never seen more than three cubs at heel. He states that, in the Central Provinces, the jungle tribes universally believe that the male parent eats the spare cubs and even records an actual case, at Bilaspur, of three quarter-grown cubs having been found partly eaten by a tiger.

So far as the United Provinces are concerned, the main food of tigers is sambar, although numerous chital, wild pigs, village cattle and many smaller animals are also killed as occasion offers. The average tiger kills about once every four days—if he can—

and, if undisturbed, consumes practically the whole of each animal he destroys. He is not a wasteful animal, then, like the leopard, and seldom kills for pleasure. In the words of Major-General Wardrop, "A tiger kills to live, and killing is as much a business proposition with him as is his daily journey to the City man." Unfortunately, the balance of Nature in the Reserved Forests of the United Provinces and in many other parts of India, has been upset by the eternally interfering hand of man. Deer for many years have been most carefully preserved, whereas the larger Carnivora have been ruthlessly pursued and destroyed. The result is that there are now too many deer, particularly hinds, and far too few of their natural enemies to keep them in check. The obvious outcome of such a state of affairs is that the size of the stags' horns has deteriorated—especially in the case of sambar—and the deer and pigs have become a positive nuisance in forest plantations and village cultivation bordering on Reserved Forests. An effort has been made during recent years to afford tigers in the United Provinces a slight measure of protection, but the rules imposed are extremely unpopular with many people—sportsmen and natives of the country alike—possibly because these rules are not entirely what they might be, and certainly because many of those who criticise them do not understand sufficient about the fundamental laws of Nature to appreciate the fact that even such maligned beasts as tigers and leopards serve a definite purpose in the communal life of a forest. The opinions of some of India's leading sporting authors on the subject are of interest. The Hon. J. W. Best writes, "It is generally assumed that the tiger is a harmful creature and that the sooner it is killed off the better it will be for the human race. Except for the rare man-eaters, a tiger, if left alone, is no more dangerous

A tiger creeping toward his kill

to human life than a pig, and it is not so destructive to the farmer's interests, in many cases helping to keep harmful game within reasonable bounds. It is true that a number of cattle are killed off by tigers every year, but these, as often as not, are the barren old cows, superfluous and emaciated bulls or bullocks past their work, which, forming more than half of the village herds, eat up the grazing which should provide for more productive animals."

Again there is the opinion of that well-known writer, G. P. Sanderson:—

"As to the individual value of the cattle killed by tigers, it is to be remembered that, it being against a Hindu's tenets to take the life of the sacred cow, there is always about every village a large number of old, scraggy and useless animals of no value to anyone, in ridding the country of which the tiger does good to the community. When a ryot's bullock gets beyond ploughing, and his cow past milking, there is no sale for them, as they are as useless to everyone else as to himself; so that they are added to the half-dozen or so of halt and blind in his fold, and sent with the other two or three hundred of their kind, owned by the village, to the jungles to graze. A ryot is always careful of his really good cattle, taking them with him to his fields when working and tying them up there upon the divisions between the fields where there is really good grass. The sight of the herds of half-starved and mangy animals returning to Indian villages in the evenings is a familiar one to the resident in the country. These wretched beasts generate the diseases from which few Indian villages are ever quite free, and their room is greatly to be preferred to their company.

"The tiger is no unmitigated evil in the land. His pursuit affords excitement and recreation to many a hard-worked official

whose life, except for an occasional day in the jungle, would be one of unmitigated toil. Many officers see for themselves matters affecting the districts of which they have charge when visiting out-of-the-way places for sport, which they would never learn otherwise. It is a pity to see the tiger proscribed and hunted to death, by every unsportsmanlike method that can be devised, in response to popular outcries chiefly in England—without foundation in fact, about his destructiveness. Trace out and slay every man-eater by all means possible and at any expense; but ordinary tigers are exceedingly inoffensive and have their uses. May the day be far distant when the tiger shall become practically extinct!"

Mr. Best states that tigers, except the rare man-eaters, and if left alone, are no more dangerous than pigs, and this is precisely my opinion. I have never had any experience of man-eaters, and, although I have met tigers at close quarters when on foot or on an elephant on a number of occasions, they have never shown a hostile attitude towards me. The first time I ever met a tiger when on foot was in the Ramnagar Division, some ten years ago, during a short spell of leave from active service on the North West Frontier of India, and was unfortunately on an occasion when I was still using a rifle, as well as a camera. The adventure provided a very interesting experience so I give the story in full. There was a certain contour path round a hill-side in moderately open jungle, frequented by sambar, and I had this path swept beforehand of all leaves and twigs, making it possible for the hunter to creep absolutely silently along when wearing stalking boots of rubber or grass. At about 8 o'clock one morning in the winter, with quite a bright sun shining, I crept along this path, carrying a light rifle and followed by a Pathan

shikari, whose duty it was to keep the heavy double-barrelled rifle to hand. Just as we approached a corner of the hill, a long shadow—the sun was low, as it was still early—was seen advancing towards us from the opposite direction; so we stood perfectly still, expecting a sambar to come round the corner. The shadow came nearer and nearer, until at last a tiger appeared, creeping along, with his gaze directed up the hill-slope, which he was intently searching in the hope of discovering a possible dinner. He did not see us in front of him at first, as his whole attention was fixed on the slope above, and he came slowly on to within five or six yards before, suddenly, he looked straight ahead into the eyes of the two men standing in front of him. He immediately stopped dead, and the look of astonishment which appeared on his face was clearly visible to those two somewhat nervous shikaris.

I have since learnt that such a facing shot is too dangerous to take, unless the tiger be actually attacking, but I was a novice then, and, after slowly changing rifles with the shikari and taking careful aim at the tiger's head, I attempted to pull the trigger, only to find that the rifle refused to fire. I then took it down from my shoulder to examine, with the tiger standing perfectly motionless and watching me the whole time, and found that, in the excitement of the moment, I had forgotten to cock the hammers. Realising what was the matter, I pulled back one of the hammers, and, on hearing the click, the tiger stepped quickly to one side into the forest, only to be missed owing to the bullet striking a small tree in front of him! This was regrettable from the shikar point of view, but how much more so to the keen animal photographer. A tiger standing on a jungle path, in a perfect light, within a few yards, and affording an excellent opportunity

for at least half-a-dozen exposures with a reflex camera—and no camera present!

It is to be noted that this tiger did not attempt to attack us in any way, although it was a very marked case of a stalker being stalked, and it must have been a very novel experience for the prince of stalkers to be beaten at his own game. Some years later I had a party of friends out shooting with me in May—the hottest month of the year—and we attempted to stalk two tigers on foot, which we believed to be lying in a pool in a narrow gully. We went very carefully for some 200 yards, but ultimately got somewhat slack, thereby giving the tigers, which were lying submerged in the water, warning of our approach. This is said to be the most dangerous form of tiger shooting, as tigers do not like being disturbed from a cool retreat in the heat of a May day, but these two animals just examined us on our approach and then rushed away up a terribly steep cliff before we could get a chance of a shot. Again, as is mentioned on page 59, I unexpectedly met a big tiger eating his kill one morning at about 8 o'clock, after my automatic flashlight had failed, and when I was without a weapon of any sort. We came suddenly on this beast round a corner at close range and luckily I had my Garhwali orderly, Mahendra Singh, who is steady with tigers, with me at the time. This tiger was a little cross at being disturbed and snarled at us: but, as we stood perfectly still, he finally decided to go away without interfering with us in any way. Had we shouted or attempted to run away there would almost certainly have been an accident, which shows that one cannot be too careful to stand quite motionless should one happen to meet a tiger unexpectedly. Indeed, I have had two men killed in the forests under my charge during the last three years owing to their non-

A tiger-cub who rudely turned his back as he enjoyed his meal

observance of this very important rule. The former of these was a bamboo-cutter, who suddenly met a tiger one day when he was working in the forest. Startled by the unexpectedness of the meeting, and in accordance with the inborn dread of tigers exhibited by his race, he waved his arms about and screamed before running away, with the natural result that the tiger, anticipating an attack, killed him out of self-preservation. The second case was somewhat similar, although the story as told by eye-witnesses was none too clear—as always happens in such cases. Two or three men were going through the jungle when they heard a tiger snarl. Instead of stopping or retreating quietly, they foolishly went on to investigate, thereby disturbing the tiger over his kill. The tiger, apparently, thought that they were trying to steal his prey from him, and, being hungry, killed one of the men to save his food. He gave these men clear warning, and they had themselves only to thank for the death of one of their number. I have met tigers at close quarters on other occasions, and the members of my staff frequently do so, nearly always without anything untoward happening, and I hold that, under ordinary circumstances, the jungle tiger of the United Provinces is not in any way dangerous. The exceptions are:—

(*a*) If he has been wounded.
(*b*) If he anticipates attack, or the loss of his food when he is hungry.
(*c*) If it is during the breeding season.
(*d*) If it is a tigress with cubs.

I have no experience of habitual man-eaters—which are incidentally very different from man-eaters—and thus do not

propose to say much about them. Some parts of India are much more liable to produce man-eaters than others, among which may be mentioned the Sunderbans, parts of the Central Provinces and Behar, and the high hills of Kumaon. The old theory that tigers and leopards take to man-eating when they are old or wounded is not always borne out by the records of man-eaters which have been destroyed in modern times. It would appear to be almost certain that, in some cases, the tendency is inherited, or at least taught to the cubs by man-eating parents. The bad reputation of the more elevated parts of Kumaon for producing man-eating tigers and leopards is almost undoubtedly due to the shortage of the natural food of the larger Carnivora in such high mountains. Some interesting stories of man-eating tigers of the last century, largely taken from the records of the Bombay Natural History Society, were published in two numbers of the *Pioneer* of August, 1926.

A tiger, when wounded and fighting for his life, is a very different proposition indeed, and undoubtedly he then becomes one of the most dangerous of all animals in the world. I have given up shooting entirely during recent years, and thus do not now have opportunities of observing tigers under such circumstances. Exciting adventures frequently occur and I give one, quoted from the *Pioneer* of January 30, 1926, which befell Mr. E. A. Smythies of my service. It took place in Haldwani Division, which is some 60 miles east of Lansdowne Division, where practically all the photographs illustrating this book have been produced.

"We were staying for Christmas in a good shooting block, and one night we had a kill by a tiger in one of the best small beats in the area. So my wife and I went off to the beat, and I

fixed up two machans, my own in front, and hers about 40 yards to the right and behind, thus avoiding the risk of ricochets. Her machan was in the first fork of a tall cylindrical tree, 14 feet from the ground, the tree being 4 or 5 feet in girth. Just in front of my machan was a patch of heavy *narkal* grass about 25 yards in diameter, and there was a good deal of grass and undergrowth all round. Soon after, the beat started, and I heard a 'stop' clapping, and the tiger roared twice. About three minutes later, I heard it coming through the *narkal* grass, and presently it broke cover at a fast slouch. My weapon was a H.V. .404 Jeffrey magazine rifle, with which I have killed several tigers. I had 4 cartridges in the magazine and chamber and several more loose on the machan. As the tiger broke cover, I fired and missed, whereupon he rushed back into the *narkal*. Presently the beat came up to the *narkal,* and almost simultaneously the tiger again broke cover, this time at a full gallop with a terrific roar. I fired at it going away on my left and again missed. The beast went by my wife's machan at a gallop about 30 yards from her, and as soon as it had passed her, she fired and hit about 6 inches or so above the heart and just below the spine. This stopped it, and it rolled over roaring.

"Here the incredible part of the story begins. The tiger, mad with rage, turned round, saw her in the machan, and made for her, climbing the tree for all the world like a huge domestic cat, with its forearms almost encircling it. Up it went vertically under her machan, and as I turned round hurriedly, I knocked the loose cartridges out of my machan to the ground. As things were, I had no option but to take the risk of hitting my wife. I fired at the brute when it was half-way up the tree, but only grazed it. As I looked to work the bolt and reload, I realised I

had only one cartridge left, and, looking up again, saw my wife standing up in the machan with the muzzle of her rifle in the tiger's mouth—his teeth marks are 8 inches up the barrel—and he was holding on to the edge of the machan with his forepaws and chin. In this position she pulled the trigger—and had a misfire! You must realise that at least two-thirds of the tiger's weight was now on the machan, for, except for his back claws, he was hanging out from the tree by the width of the machan, which was rocking violently from his efforts to get on to it. The next thing I saw was my wife lose her balance and topple over backwards, on the side away from the tiger.

"The beast did not seem tc notice her disappearance, and, as I again aimed at him, I saw him still clawing and biting the machan—the timber was almost bitten through, and the strings torn to shreds. I fired my last available cartridge, and, by the mercy of Heaven, the bullet went true. It took the tiger in the heart and he crashed over backwards on to the ground immediately below the machan, where he lay hidden from view in the grass. I did not know at the time that he was dead; nor of course did my wife. All I knew was that my wife had disappeared from the machan one side of the tree and the tiger on the other, and that I had no cartridges left; and that I was helpless for the moment to give any further assistance.

"Whether my predicament was as bad as my wife's can be judged from her view of the incident. I quote her words:—'When I fired again, he turned round and saw me, and immediately dashed, roaring, towards my tree. I thought he was galloping past, but suddenly realised that he was climbing up, and only just had time to stand up in the machan before his great striped face and paws appeared over the edge, and his blood and hot

Dragging a kill by the hind-quarters

breath came up to me with his roaring. I pushed the barrel of my rifle into his mouth and pulled the trigger, but the rifle would not go off. Then I really did feel helpless and did not know what to do. We had a regular tussle with the rifle and then I saw his paw come up through the bottom of the machan, and, stepping back to avoid it, I must have stepped over the edge of the machan, for I felt myself falling. I thought I was falling into the jaws of the tiger and it flashed through my mind "Surely I am not going to be killed like this." I never felt hitting the ground at all and the next thing I knew was that I was running through grass and over fallen trees, wondering when the tiger would jump on me.'

"She arrived at my tree almost simultaneously with the mahawat, Bisharat Ali, who had rushed up his elephant, regardless of wounded tigers or anything else, and she hastily mounted and cleared off into safety, unhurt except for a sprained wrist and various scratches and bruises from the fall. One of the 'stops' was calling that he could see the tiger and that it was lying dead under the machan. So, when a supply of cartridges arrived, I went up cautiously and verified his statement, recovered my wife's hat and rifle, and went off with her to the forest bungalow, leaving the 'stops' to bring in the tiger.

"It was a nice male 9ft. 3ins. in length with three bullets in it, one between the heart and spine, one cutting the bottom of the chest, and one in the heart. It will be a long time before we try and get another! This is a plain unvarnished account of an incident which must, I think, be unique in the annals of tiger shooting. At least, I have never heard of a lady being hurled out of a high machan by a climbing tiger and her husband killing it up in the air with his last cartridge."

There is one other subject to which I wish to refer before closing this chapter, and that is the various calls made by tigers, some of which are so remarkable as to have become the subject of much controversy among sportsmen in India. These calls are:—

(*a*) The well-known coughing roar made by angry or wounded tigers when charging. This roar, one of the most awe-inspiring sounds in Nature, is familiar to all who have hunted tigers and does not call for any comment.

(*b*) The ordinary roar, usually described as "aooh" and heard at night and in the early morning and evening. The tiger is not by nature a noisy animal like the lion, and many people living in country where tigers occur hear this roar in the distance only at rare intervals. At close quarters the volume of sound produced is enormous, and I remember an occasion when I was waiting on Balmati in a dense jungle just as night was closing in, listening to a roaring tiger coming closer and closer. When it was practically dark, the animal came to within about 20 yards of where we were waiting, by which time the volume and malignity of the roaring seemed simply appalling. The whole dark forest seemed to vibrate with the very sound and I must confess that, accustomed as I am to the roaring of tigers, I began to feel somewhat nervous. Every animal within miles must have heard the roaring, which presumably was meant to call up a mate. I have noticed that tigers generally roar in this way on nights when I have had a bait killed and I believe that—after first having a good feed themselves—they usually call up their partners to join in the feast. Or perhaps it may be a song of thanksgiving to a bountiful Providence for having provided them with meat! In

A tiger passed in the night—tracks in soft sand

any case, this roar is not usually used when a tiger is hunting, and there is little doubt that one of its objects is to get into touch with a mate.

(*c*) The low moaning sound which is heard when a tiger is on the prowl and also sometimes on other occasions, such as when he is returning in the early morning to his retreat for the day. This sound, although in no way comparable to the ordinary loud roaring, can be heard at a considerable distance, and it is very difficult to understand what object it can achieve. Surely game animals must know its origin, so that it would seem that it can act only as a handicap to a tiger in his hunting. Yet for an animal to be deliberately handicapped by the sound it itself produces does not fit in with the general scheme of Nature, and there must be some other explanation. Perhaps it causes animals to call and thus enables tigers to locate their position, or it may be used by a pair of tigers for keeping contact with each other when hunting together. But even these suggestions do not account for a tiger making such sounds when he retires for the day, and it would appear that, most probably, the sound is merely one of contentment and corresponds to the purring of the domestic cat.

(*d*) Lastly, there is the sambar-like "pook," made by tigers on rare occasions, and discussed at length in Dunbar-Brander's book. Tigers appear to make this sound much more often in some localities than in others; but, as I have heard it only once—just after a tiger had relieved nature—I do not feel competent to express an opinion as to its object. It was at one time suggested that it is made with the idea of deceiving sambar into calling, thereby giving away their position to the tiger. The resemblance to a sambar's call is not sufficiently marked

to make it seem likely to deceive such a wary animal, and the general trend of the correspondence in the *Field* and the Bombay Natural History Society's *Journal,* which followed upon the publication of Dunbar-Brander's book, suggests that the call, which is not ordinarily used, has some connection with sex and is not a hunting call at all.

Chapter 6

PHOTOGRAPHING TIGERS

THERE are numerous ways in which one can attempt to produce photographs of tigers in the wild, and I will now discuss these in detail in this chapter. The most obvious method of all is to locate a tiger in a definite piece of jungle and then to drive him out by means of elephants, or a line of men, flanked by "stops," past a fixed point at which the photographer is located. This is the ordinary method of shooting tigers in India, but it has little to recommend it to the animal photographer. Firstly, under such circumstances, the tiger is fleeing for his life from his dread enemies, so that any photographs one might produce as a result of such a beat would not represent a tiger under natural conditions, where he is the pursuer and not the pursued. This objection alone rules out this method at once for anyone who wishes to picture tigers living their own lives as kings of the jungle, and hence I have spent little time in the pursuit of such photographs. Apart from this, however, there are other very serious objections to the employment of beating for the production of photographs of tigers. In the first place, even if the beat be extremely carefully and quietly carried out, the tiger will most probably come out at a fast walk, and he may rush out at a gallop, particularly when he has to pass the open spaces which he hates, but which are essential to the photographer. An exposure of at least 1-150th of a second is necessary to stop movement in a tiger walking, whereas it may run up to

1-1000th of a second to produce a satisfactory picture if he be going fast, and, except in very rare cases, such short exposures are absolutely impossible in the bad light of the Indian jungles. Again, no tiger will cross the open in a beat if he can possibly sneak out under cover, so that, even if he comes out sufficiently slowly to make an exposure possible as regards movement, he is almost certain to come through shady grass or bushes, in which the exposure required for the production of a fully-exposed negative may run into seconds. And who can hold a reflex camera still for seconds, even if the tiger himself would remain perfectly motionless for such a period of time? In Nepal, tigers are sometimes shot by ringing with elephants, and, given a sufficient number of elephants, it would be perfectly possible to ring them in open country suitable for photography. Indeed, daylight-photographs of tigers have actually been produced in this way in Nepal, but, as the tiger might just as well be inside the bars of a cage as inside an almost impenetrable wall of elephants, such photographs make no appeal to me.

Beating having been ruled out, the next most obvious method of photographing tigers is to obtain a kill and then to sit quietly in a machan in the hope that the tiger will arrive in bright daylight and thus enable an exposure to be made. My personal experience is that tigers in the heavily-shot-over jungles of the United Provinces generally arrive well after dark, although some may come at dusk and a very few at any hour of the day. I have sat in a machan with and without a camera many times, but I have never yet had a tiger come in a light good enough for a picture to be produced. It is to be remembered that the light in the Indian jungles, even under the best conditions, is such that a reflex exposure can be made only in direct sunlight and

many kills are located in such dense cover that, even if the tiger were to arrive at noon, the production of a satisfactory picture would still remain almost impossible. Also, if one sits in a machan, one must sit behind a screen of leaves and these leaves and intervening branches are anathema to the photographer even though they may be little hindrance to the sportsman. I have several times been told by sportsmen, who were not experienced animal photographers, that they have had tigers come in a beautiful light, in which they could easily have taken fine photographs—if only they had had a camera with them! I wonder! None but those who have actual experience of photographing wild animals in dense forest can realise how many apparently insignificant little details are essential to the making of satisfactory photographs, and I very much doubt if many good pictures of tigers will ever be produced in this way, although I admit that a perfect opportunity may possibly present itself once or twice in a life-time. As a regular method of attempting to photograph tigers I consider this also to be of little practical value.

A third method is to move quietly about the jungle, on a tame elephant, in the morning and evening in the hope of a chance meeting with a tiger. This is called "ghumming" in India and is of value, particularly in the morning, evening light being very weak photographically, and should bring success if persisted in for sufficiently long in tiger country. I have not obtained any of my tiger-pictures in this way, although it has proved exceedingly successful with some other animals; but, if all alarm-cries are immediately followed up, it is undoubtedly a possible method of photographing tigers and one which should have brought me more success than it has done. On one occasion, in the hot weather, I came across a tiger, lying half-asleep in the

sun at about 10 a.m., and completely blocking the path along which I was proceeding at the time. We first saw him at a distance of about 30 yards, and, as his head was turned in the opposite direction, it was obviously an excellent opportunity to stalk right up to him. My mahawat on that occasion, however, a sullen and bad tempered man, argued that I must shoot him straight away, and, when I refused, he retaliated by taking the elephant up fast and noisily, thereby causing the tiger to bolt at once. This is the great difficulty which always has to be faced if one wishes to use tame elephants for the purpose of big-game photography. The mahawats have been trained from boyhood to expect the Sahib eagerly to seize every opportunity of shooting animals like tigers, and they simply cannot understand anyone letting such good opportunities slip for the sake of a paltry photograph, which, to them, means nothing whatever. A mahawat loves to boast among his fellows of the number of tigers that has been shot from his elephant, and he is always thinking of the "bucksheesh" which accompanies the death of a tiger. The photographer can overcome this later difficulty by giving large tips whenever he obtains a successful photograph, but, even then, nine mahawats out of ten will secretly despise him and think him quite unworthy to sit on their elephants.

There is a much better method of photographing tigers, nevertheless, than those already mentioned and that is to obtain a tiger-kill in country suitable for photography and then to attempt to stalk the tiger, on a tame elephant, when he is resting in the heat of the day. This method requires an intimate knowledge of the country and drinking places, but it is one which is sure to bring success, sooner or later, if pursued with sufficient care and forethought, and always provided that one has a perfectly

staunch tame elephant at one's disposal. The normal habit of tigers, after eating, is to drink at the nearest pool, and then, provided they are undisturbed and the country is suitable, to lie up for the day, either near the kill or near the drinking-place. It thus helps in locating the tiger to arrange for a kill with water and a suitable lying-up place near by, and this can be done by a judicious choice of places for tying out buffalo-baits. Needless to say, it is of vital importance that the men who go to bring in the baits in the morning should make no noise whatever and on no account should follow up the drag, in the event of any of the baits having been killed. Also, it must always be remembered that a tiger's choice of a retreat for the day will depend very largely on the season of the year: in the summer he will almost invariably seek out the densest cover, with water in the immediate vicinity, whereas, in the winter—at least in so far as the extremely cold Himalayan foot-hills are concerned—he will often lie right out in the sun on some open hill-side, from which position he can command a view of the whole country, including the approaches to his kill. It thus follows that neither of these places is of much use photographically, the former being much too dark and shady and the latter so open that a close approach becomes very difficult. The ideal is a compromise between the two: open tree-forest, which permits the entry of sufficient light for instantaneous photography and also, at the same time, enables one's tame elephant to approach slowly and partly under cover, so that the tiger may be deceived into thinking that the approaching elephant is a wild one having no connection whatever with man. I have succeeded in getting right up to tigers a number of times in this and other ways and one or two experiences are described in full in other chapters.

I have now discussed various ways of photographing tigers by daylight, but, after years of continuous effort, I have found that one obtains very few pictures in proportion to the amount of energy expended. In addition, pictures of tigers by daylight are not truly representative of such nocturnal beasts, who are half-asleep most of the day as they rest from the efforts of their previous night's activity. Truly to represent a tiger as the dread terror of the jungle-night it is obviously necessary to photograph him at that time and the only way to do this is to take up flashlight photography, of which many photographers fight shy as being expensive, complicated, and giving poor "soot-and-whitewash" pictures. Expensive it certainly is and it may involve a greater knowledge of photography than is possessed by the ordinary owner of a kodak; but I think that, with proper apparatus, it is possible to produce, if anything, better pictures of many wild animals by night than one can ever do by day, and this for the obvious reason that one can take photographs by flashlight of animals in motion in a way which is absolutely impossible by daylight in the dense and shady Indian forests.

The pioneer of flashlight photography of animals was the German, Schillings, who, considering the poor apparatus available at the time, produced some magnificent pictures of African animals, 30 or more years ago. I well remember how I used to delight in his pictures when I was a boy, and, since then, there have been others in the field, the foremost being Major Radclyffe Dugmore and the American, Martin Johnson, both of whom have produced fine flashlight pictures of lions and other big-game animals of Africa.

At one time flashlight work was very unsatisfactory, owing to the unreliability of the flash-powder available, and also to the

extreme difficulty of synchronising the exposure of the shutter with the moment of maximum intensity of the igniting flash-powder. Better flash-powder is now available and the latter difficulty has been overcome by the use of electricity, combined with the excellent apparatus perfected by Mr. William Nesbit, of which details are given in the special chapter on photography at the end of the book. This apparatus greatly simplifies flash-light work, and I have to thank Mr. Nesbit for having given me the chance to produce the flashlight pictures contained in this book. Without his apparatus I should not have obtained nearly so many pictures, and all keen animal-photographers owe a great debt of gratitude to the inventor of an apparatus, which opens up such great possibilities of fascinating camera-hunting to those who thoroughly master its details, and who will not be deterred by the inevitable failures which must accompany all flashlight work. Indeed, if flashlight photography were too simple, it would soon cease to appeal, since it is one of the hard facts of life that a thing which comes too easily soon tends to lose its fascination. As this apparatus is fully described in another place I will say little about it here. Briefly, the principle is that the flashlight is fired electrically, either by the photographer or by the subject, and the force of the igniting powder acting on a movable rod enables the shutter to be released at the moment of maximum intensity of the light, thereby permitting the use of such extremely short exposures as 1-200th of a second. It is to be noted that the flashlight can be fired either by the photographer or by the subject, and this places a tremendous power in one's hands—a power which one can adapt to the needs of the particular subject which it is proposed to photograph.

Photographers in Africa have apparently found automatic flashlight work, in which the animal itself fires the flashlight, to be of little use for photographing lions, largely owing to the difficulty of other creatures firing off the flashlight before the lion has had a chance to do so; but, despite innumerable failures from one cause and another, I have found it to give excellent results with tigers—provided always that one still carries on, even when a continuous run of disappointments has made one wonder if he is ever going to obtain any results at all.

To the keen student of animals, it is naturally of much greater interest to sit over a tiger-kill in order to enjoy the extreme pleasure of watching the great beast approach and then to fire the flashlight himself at what he considers to be the best moment; but this, the ideal, cannot always be done for a variety of reasons which I will now discuss. Firstly, it is almost impossible to sit quite still all night, and, if the tiger does not come until late, one may get tired and slack, which results in inevitable movements frightening the tiger away from his kill altogether. Secondly, on a dark night, one can see nothing whatever and has to guess by sound whether the tiger is in a good pose or not—or even if it is the tiger at all—in order to decide upon the moment to fire the flashlight. This difficulty can, however, be overcome to a limited extent by switching on an electric torch just before firing the flashlight. Thirdly, as is described in the chapter on tigers and their prey, constant all-night sittings in the unhealthy Indian jungles undermine the constitution and, sooner or later, are certain to wreck one's health with fever. Fourthly, a Forest Officer, like many another, is a busy man, who tries to carry on his hobby at the same time as his work, and the latter is bound to suffer if he spends many nights out in the jungle. Again, pictures like

that on plate xiv can be produced only automatically, since a tiger's approach is absolutely silent and I had to put up the flashlight apparatus at least fifty times before I succeeded in getting a tiger in such a position. If I had sat up all night, for fifty nights, in the pursuit of this picture, I should probably not have heard the tiger coming when he did at last arrive and I should certainly have been in my grave long before this book ever saw the light of day. Lastly, and this is an important point, even if one does sit up all night, one still has very little control over the resultant pictures, since the camera must be fixed and focussed previously and if the tiger comes the wrong way unexpectedly, or appears too suddenly, one may yet have the extreme mortification of seeing all one's trouble come to nought. When on leave, or on special occasions, I would thus recommend firing the flashlight oneself on the arrival of the quarry; but, as a general rule, I am of the opinion that automatic work is inevitable and that the amateur who has his daily work to do will obtain very few pictures without its use.

The usual procedure is to obtain a tiger-kill and then to approach very quietly and carefully in the middle of the day, thus making certain that the tiger does not watch the whole proceeding. When I first started this form of photography I used to erect my flashlight apparatus late in the afternoon, in order to minimise the danger of its being fired off by birds and jackals, and I was astonished at the number of times the tigers never returned to their kills again. I have since found that many of these failures were due to the fact that the tiger had seen what I was doing, and I am convinced that many sportsmen, who fail to shoot tigers from machans, fail largely because they erect their machans too late in the day or too noisily. A tiger's period of

minimum vitality is from about 11 a.m. to 3 p.m. and one should naturally take advantage of this as far as one can. Having reached the kill without scaring the tiger, and having made absolutely certain that he is not watching near by, the camera should be carefully focussed, the flashlamps erected, the shutter adjusted and tested, and finally a trip-wire arranged so that the tiger will push or pull it unknowingly when approaching or eating his kill. The choice of site and adjustment of this trip-wire are by far the most important points in automatic flashlight work as upon them depend the success or failure of one's efforts. Almost every kill needs to be treated in a different way: sometimes it may be completely surrounded by the trip-wire, sometimes one can be fairly certain of the tiger's probable line of approach, and sometimes the risk from birds, jackals, and other creatures is so great that it is better to erect the apparatus in some other place, where the tiger is likely to pass during the hours he spends near his kill. The picture of a very large tigress, shown on plate xxviii, is an example of this. This tigress killed three of our baits within a very short time and always left the bait where it was tied, without taking it away into the jungle. These baits were all tied at cross-roads, or at the junction of a *sot* with a road, so that, in every case, they were found by jackals and numerous other creatures soon after the tigress had left. It was thus quite useless to erect the automatic apparatus in places where it was certain to be fired long before the cunning tigress could be expected to arrive. The third kill was in a broad river-bed, below a high bank, and experience has shown us that tigers generally approach kills by hugging the foot of such banks. For this reason we arranged the apparatus about 50 yards away from the kill, and put the trip-wire across a small path, after having

"Her expression suggests her disapproval of other visitors to her kill"

slightly blocked other paths, with the result that we obtained this picture of the tigress approaching a kill, which had already been visited by numerous other creatures. Her expression suggests her disapproval of these other visitors and vividly shows how automatic flashlight photography can be employed in spite of the constant danger of other animals spoiling the chance. Having decided how and where to place one's trip-wire, one carefully camouflages the whole apparatus with branches and leaves, and tries, as far as possible, by judicious arrangements of thorns and branches, to guide the quarry into the wire, being very careful not to over-do such blocking or the tiger may desert the kill entirely. Many, many times will one fail, but one can and does succeed at intervals, and the few prizes one secures more than compensate for the oft-repeated and at times heart-breaking series of failures, which are inevitable in a form of big-game photography which many have abandoned as useless.

I have heard it suggested that photographing tigers by automatic flashlight is a very poor form of sport, comparable only to shooting by means of spring-guns. The answer to such an argument is to suggest that he who thinks such photography to be too easy should try for himself and see what luck he has. Simple though such photography may appear to be, there is far more in it than merely obtaining a tiger-kill, arranging the apparatus, enjoying a comfortable night's sleep in bed, and then arriving the following morning to find that the tiger has obligingly done the rest. I have kept careful records of all tiger-kills since I took up flashlight photography, and the following figures may be of interest. I have had 50 tiger-kills, of which 8 have been natural kills and the remainder have been buffalo-baits. Yet I have obtained only 8 good tiger negatives, or an average of 1

negative to over 6 kills, whereas sportsmen who shoot tigers by beating expect to get at least an average of one tiger for every four kills. In all, the flashlight was fired 31 times, in 12 cases by tigers and the remainder as follows:—

Hyænas 4 times, wild cats, birds, pigs and jackals twice each, and sambar, leopards, porcupines and bears once each, whereas 3 times there has been no animal in the picture at all. Of the 12 times that tigers have fired the flashlight, twice the shutter has failed, on each occasion when the tiger happened to be in a particularly good pose, and I know nothing more annoying than to find a blank plate when the exciting and final act of development arrives, after months and months of weary effort have at last culminated in a flashlight exposure on a tiger. The remaining 10 exposures have produced 8 good negatives, but 2 of these were obtained at a considerable distance from the kill, so that 50 kills have really produced only 6 tiger negatives. Bearing these figures in mind, I do not think that anyone can justly claim that automatic photography is too easy to be sporting, when one has to compete with such heavy odds against its success. Indeed, many a time I have been on the point of giving it up altogether after a particularly long series of failures.

In the preceding paragraph I have stated that tigers have fired my flashlight 12 times in the neighbourhood of kills, but on other occasions also tigers have returned to the kills without firing the flashlight, either owing to the trip-wire breaking or else after the flashlight had already been fired by some other creature. The average tiger undoubtedly intends to return to his kill again after his first meal and many of the cases when tigers have abandoned kills altogether are directly due to putting the apparatus up too late in the day, to making too much noise, or to the firing

"One hopes against hope that the tiger will pass in the right direction"

of the flashlight by some other animal at a time when the tiger is near by listening or watching his kill. After all, most of the 50 tiger-kills in question have been in hilly country, where the tigers nearly always lie up in some elevated place, which gives them every opportunity of hearing or seeing any intruder upon their domain. With ordinary machan-shooting one can approach a kill very quietly, tie up the machan from the back of a tame elephant in a few minutes, and leave the place practically undisturbed; but the erection of the flashlight apparatus takes anything up to two hours, during which time it is almost impossible to avoid making a considerable noise in erecting lamp-posts, camouflaging the camera with branches and blocking undesirable approaches to the kill, so that the tigers really have every justification in abandoning such kills altogether and one stands practically no chance with a really cunning old beast who has been taught wisdom by bitter experience.

Automatic photography can also be used for photographing tigers away from kills, but such photography is extremely uncertain and requires an intimate knowledge of the locality, as well as of the habits of the particular individuals one wishes to photograph. Tigers, when hunting at night, travel by preference along jungle roads, paths and dry river-beds, so that it is just occasionally possible to anticipate the exact spot which a particular tiger is likely to pass on a definite night. Most tigers have a certain beat, which may take them a fortnight or more to complete, and long observation tends to give one some indication of the average intervals at which the tiger is likely to pass certain spots. Incidentally, in order to obtain information on this subject, I have had maintained daily records of tracks passing definite fixed spots for 6 months or more and have thereby added

to my knowledge of the movements of tigers and other denizens of the jungle. Having decided upon a suitable spot and a suitable time, one then arranges the apparatus in such a way that the tiger will fire it when passing, and hopes against hope that one's calculations are correct and that the tiger will arrive from the right direction before any other passer-by has had time to spoil the chance by coming first. I have arranged my apparatus perhaps 150 times in this way, and I have had a tiger pass only 6 times. Four times the flashlight was fired, the fifth time the tiger saw the trip-wire and stepped carefully over it and the sixth time the wire broke without completing the electric circuit. Of the 4 times the flashlight was fired, once the shutter failed to work and another time the tiger found the trip-wire and took it in his mouth, the somewhat indifferent picture on plate xxx showing him actually in the act of biting it through! Of the remaining 2 exposures, one is figured on plate vii, and shows a tiger going away, and the other is pictured in the frontispiece and on plate xiv, and is, I consider, the best photograph I have ever obtained.

"Actually in the act of biting through the trip-wire"

Chapter 7

TIGERS AND THEIR PREY

"Two eyes among the thickets glow,
A stealthy rustle stirs the air;
The tigress springs, and lays him low,
Then bears him senseless to her lair."

LAURENCE HOPE.

TO all who have studied tigers in their natural haunts, perhaps the most interesting of the many absorbing details connected with the habits of these splendid beasts is the long-debated question of how they obtain their prey. This has been discussed many and many a time in clubs and messes in India, by all who have hunted tigers, and sometimes whole chapters of books are devoted to the subject; but there still remains a great deal of doubt as to how a tiger locates, how he approaches and how he kills his prey.

In one of the previous chapters the question of the tiger's powers of hunting by scent has been discussed and it will be seen that most authorities agree that this power in tigers is small—if not, indeed, entirely negligible. The possibility of a tiger following up the tracks and scent of animals, like a bloodhound or a wild dog, may thus be ruled out as extremely improbable.

The other possibilities that occur to one are:—

(*a*) Lying in wait near favourite animal tracks and drinking places, and pouncing upon the unsuspecting animals as they arrive.

(*b*) Questing along jungle nallahs and paths until he sees or hears animals feeding in the distance and then encompassing their destruction by means of a careful stalk.

(*c*) Following the herds of village and graziers' cattle as they return from the jungle in the evening, and pouncing upon stragglers.

(*d*) Hunting in pairs and driving animals from one to the other.

(*e*) Playing upon the curiosity of deer.

(*f*) Roaring in various ways in order to make deer call.

Tigers certainly vary their methods according to circumstances, and the same tiger probably employs most of the above methods under varying conditions of season, locality, and kind of prey; but I consider it probable that the normal method is that given under (*b*), and I will now proceed to discuss in detail the various reasons which lead me to this belief. I think it unlikely that a tiger would attain much success by lying in wait near water, except in very dry localities and during the hot season, when water becomes scarce. In parts of India, it is true, water is so scanty during the hot weather that there may be only one pool left in several square miles of forest, and, in such a case, the local deer may be forced to come to this pool to drink, however much they may apprehend danger by doing so. Under such circumstances a tiger can, and undoubtedly does, employ this method with success, since, however beautiful may be Kipling's story in the *Jungle Book* of the truce between animals at times of drought, there is no such charity in Nature, where the survival is always to the strongest and the fittest. But in the foot-hill forests of the Himalayas many drinking places remain all the year round, and,

if a tiger took to lying in wait in any chosen spot, the local jungle population would soon became aware of the fact and would desert that particular drinking pool altogether. Even if it be argued that the tiger would change his place of ambush every time he wanted food, he still has to obtain his prey during the monsoon and cold weather, when drinking places are so numerous that he would soon die of starvation if he had to rely upon animals coming to drink at any particular spot. Also, in the hot weather, when tigers lie up near water in the daytime, for the sake of coolness, they are often found by the numerous monkeys which come to drink at such places, and, once found, the whole jungle population is warned of their presence, often until late at night. If they wished to catch animals coming to drink they would certainly stand far more chance of success by moving to a different pool from the one in the vicinity of which they have been lying up during the daytime, except under exceptional conditions of heat and locality, it would appear that this method cannot be of much use. During part of the year it is obviously quite useless.

Lying in wait near favourite animal tracks would seem to be far more likely to succeed, although it is a moot question as to how far deer can scent the strong effluvium of a tiger, which must necessarily have been lying in ambush in the same place for some time, either in the vicinity of water or near such a frequented track. On the other hand, tigers are moderately long-lived; they are also very active, and, if undisturbed, remain in the same localities for many years. Under these circumstances, they must get to know their domain intimately, and, at the same time, they must also acquire an excellent knowledge of the habits of the other jungle inhabitants living within their territory. It is thus extremely probable that tigers do catch a certain number

of animals in this way, although I do not believe it to be their normal method of hunting.

Everyone who has studied tigers at home is familiar with their habit of questing by night along nallahs, paths, and even high roads. The distance they must cover in this way, in a single night, is extraordinary: indeed, it may run to anything up to 20 miles or more, performed at a slow walk, with the head lowered, and the feet placed on the ground so carefully that no sound is made. Tigers travel along paths because they can move along much more silently and easily in such places, but why do they, by habit, travel these great distances if not in search of food? On such a quest, with his ears cocked and alert, his eyes eagerly scanning the path in front of him, and his noiseless tread, a tiger becomes the very picture of the hunter seeking his prey—see photograph on plate xiv. As soon as he hears a sound, or sees anything moving, he stops, and, if the position be favourable, he then attempts his actual stalk, crouching low and moving without the slightest sound, until, if lucky, he approaches within a striking distance of some 25 yards, when he launches himself like an arrow on his doomed victim.

I myself have never seen a tiger pounce upon straggling cattle as they are returning in the evening from grazing in the forests during the day; but habitual graziers in tiger-infested forests have generally been eye-witnesses to such a tragedy one or more times during the day; but habitual graziers in tiger-infested forests have actually seen these attacks. Dunbar-Brander describes several in his book, and this is certainly a method commonly employed by confirmed cattle-killing tigers, even though there are many jungle tigers which do not, by habit, kill any but wild animals.

Tigers, or rather a tiger and tigress, may occasionally obtain their prey by the one driving game up to the place where the other is lying in ambush, and it has been suggested that this may be one of the objects of the low moaning roar referred to previously. Some sportsmen claim actually to have witnessed a pair of tigers in the act of hunting in this way; but reliable records on the subject are scanty, and, since such hunting argues a very high degree of intelligence in tigers, more observations are required before it can be definitely stated that tigers really do, on occasions, indulge in this form of hunting.

"Hawkeye" is the only author I have studied who suggests that tigers sometimes catch deer by lying down calmly in sight or hearing, with the definite idea that the natural curiosity of deer will induce them to approach sufficiently close for the tiger to make his rush. The idea is attractive and the curiosity of deer will certainly induce them, at times, to do unusual things; but most wild animals of the forest have such an instinctive terror and hatred of the tiger that it seems extremely unlikely that the slightest glimpse or suggestive sound would not warn them of the presence of their dread enemy. It would be an extremely unsophisticated deer whose curiosity would induce him to approach an animal which the instinct of thousands of generations must warn him to be synonymous with death itself, and the numbers of deer which fall a prey to tigers in this way must be so small as to be negligible.

The actual method by which a tiger kills his prey, after he has located and successfully stalked it, has long been a debated question, few observers having witnessed the final act. The subject has been discussed at length in various modern works such as those of Major-General Woodyatt, "Spyglass" and

Dunbar-Brander. The last-named has actually been an eye-witness on a number of occasions, and, as he is a notoriously accurate observer with long experience, his views are entitled to the greatest consideration. He records in his book *Wild Animals in Central India* that he has seen tigers kill deer under natural conditions twice, bullocks in a herd three times, and tied-up baits on numerous occasions. He sums up his opinion on these observations as follows:—

"With regard to deer and loose bullocks capable of moving, the tiger sprang up and in three short bounds seized the neck. The animals had started into motion, but the shock of the tiger's rush immediately rolled them over, and the tiger, hanging on to the neck, twisted it in the opposite direction to that in which the body of the animal was revolving. The weight of the revolving body opposed by the twist on the neck in the opposite direction resulted in instant dislocation.

"With regard to larger animals, which a tiger cannot easily master, such as bison, wild buffaloes and camels, he is said to hamstring them first; and, in Burma, where the cover is very thick, he is reputed habitually to do this. I have known only one case of an animal being killed by a blow of the paw.

"Common mistakes are:—(*a*) To presume that the neck has been broken, which is often not the case. (*b*) To assume that the animal has been seized by the throat, whereas in many cases it has really been seized on the top of the neck. The position of the teeth marks will show: when these are on the throat the animal has been seized from above, and when on the neck it has been seized from below.

"If the bait is fairly large and a tigress or small tiger turns up, the throat attack is preferred. The tiger advances, stalking,

head on, to within 20 yards or so of the bait, where he stands poised for a few seconds, with one foot up, tail out straight, and swaying slightly backwards and forwards to get his balance. He then takes two or three long rapid strides, and, dipping his head like lightning under the buffalo's chin, he seizes the throat and immediately pulls it down to the ground. When in this position the tiger is down on his elbows, but his hind-quarters remain up. The buffalo struggles to remain standing, but presently falls over, and, in so doing, sometimes breaks its own neck, which, of course, is firmly pinned to the ground all the time. On the other hand, this very frequently does not happen and the two animals simply remain as they are until the buffalo is dead from suffocation and strangulation.

"Assuming that a large tiger has turned up—a tiger who feels confident of being able to deal with a bait in a masterful manner—he comes in at a gallop, pulls up, rears on his hind-legs, seizes the buffalo in his jaws right across the back of the neck and passes one fore-paw to the far side of the neck. He then swings his hind-quarters and hind-legs into the position assumed by animals in breeding, and, while violently thrusting the buffalo's hind-quarters forward with his belly, he, at the same time, with equal violence, pulls back its head and neck, which latter, being unable to withstand the strain, breaks. The tiger then dismounts on the side opposite to that on which the attack was made, still retaining the neck in his jaws, and, by doing this, gives an additional twist to the neck. I have seen a tiger hang on and continue this twist until the buffalo's head was reversed and looked along its back."

Major-General Woodyatt says that he can never remember having examined a tiger-kill where the neck was not broken, and

he thinks it improbable that the neck gets broken in the animal's fall, but rather that the tiger breaks it methodically, his instinct suggesting this as the surest method of quieting his victim for ever.

During the five or six years occupied in producing the photographs illustrating this book I have seen about 100 tiger-kills, mostly young buffalo-baits, but also a considerable number of loose cattle and wild animals, and I have noticed one or two outstanding features about these kills. Firstly, when a kill has become stiff after death, it becomes a difficult matter, without actually cutting open the flesh and examining the vertebræ, to decide whether the neck is broken or not, and it is often assumed that the neck is broken when it is not really the case. Secondly, there are generally no marks on the body except the fang marks on the neck and these marks tend to get confused by the fact that the tiger, after killing his prey, seizes it by the neck in order to drag it into dense cover. He almost always drags the corpse a certain distance—up to as much as four hundred yards—in this way, and, if he leaves it in the open, in sight of vultures, it is unlikely that he intends ever to return again. Lastly, his first meal is almost always made from the hind-quarters, and, if he moves the kill again after he has made his first meal, he generally drags it by gripping the hind-quarters and not the neck as after he first kills it. Pictures xxvi and xxxi show tigers dragging their kills in this way after they have already made one meal. These last two points have been brought home to me by bitter experience, and lack of knowledge on the subject cost me several flashlight photographs during my earlier efforts to produce such pictures.

It is sometimes stated that it is possible to tell where a tiger is lying up after his meal by the direction in which the head of

A large tiger dragging his kill

the kill is lying. This may or may not be the case. A tiger, when he obtains a kill, drags it by the neck into the nearest thick cover and almost always up-hill if in hilly country. If he leaves it exactly in the same position as it lies when he has finished the drag, the head will be pointing up-hill, and, if there be a good lying-up place, with water in the vicinity, on this hill, the tiger will probably lie there, in which case the direction of the head—or rather the lie of the body, as the head may be twisted about—would be a good indication of the place where the tiger is likely to be found during the daytime. On the other hand, the tiger may pull the corpse about in any direction when making his first meal, so that it may be lying anyhow when he decides to leave it for the first time. Again, there may be no water in the vicinity, no suitable lying-up place on that hill, or the tiger may have some favourite spot for spending the daytime, so that the value of this indication is small.

As regards the position in which a tiger-kill is found, there is another point which is implicitly believed in by nearly all native shikaris and some Europeans, in the United Provinces and elsewhere, and this is that the tiger intends to return if the kill is found lying on its right side, whereas he does not if it is found on the left side. It is very difficult to understand how this extraordinary idea arose, and I have made a number of observations in my flashlight work to prove that it is pure nonsense. A tiger kills to eat and it passes my comprehension how anyone can believe that he is going to abandon his food purely because it happens to be lying on the left side instead of the right! It is to be remarked that some of the photographs of tigers reproduced in this book have been taken over kills which were found

lying on their left sides and this should surely disprove this weird idea once and for all.

For some years I have considered how best to try to demonstrate photographically the actual process of a tiger killing his prey; but the production of such photographs is bristling with difficulties. If one wanders about tiger-infested forests in the hope of some obliging tiger kindly giving a performance on a wild deer or a loose tame buffalo, in such a position and light that the taking of a photograph is possible at all, one is very likely to have retired from service in India long before success has crowned one's efforts, however prolonged they may be. One is therefore forced to tie up buffalo-baits, as is usually done for tiger shooting in India. No animal-lover likes tying out these baits to be killed by tigers, but their use is absolutely unavoidable if one is to obtain any success whatever, either in shooting or photographing tigers. I understand that, in Africa, lions can be attracted by shooting a zebra and leaving the carcase, but very few tigers in these forests—unless very hard-pressed indeed—will touch an animal which they have not killed themselves, and I believe that one would have to shoot perhaps a hundred deer before one attracted a single tiger. It is also to be remembered that the buffaloes used are young males, which are normally destroyed at birth by their owners in order to prevent them from suckling their mother's milk, the sale of which provides the buffalo graziers' means of livelihood. A buffalo is an extraordinarily placid and stupid animal, with practically no nerves, and a tiger's attack is certainly as humane as any butcher's. In this connection the Hon. J. W. Best writes: "Is it cruel to tie up a helpless animal all night to be killed by a tiger? Old ladies in England picture to themselves the horror of the poor beast,

alone in a dark forest, trembling at every sound, and expecting to die a ghastly death at any moment. I do not think the animals suffer at all, except possibly from loneliness and sometimes from the cold. Baits are frequently glad to see one in the morning, but, when one looks at them unobserved from a distance, they are generally lying down and peacefully chewing the cud. They have not the sensitive nerves of man and I doubt if they think much of tigers. When they are killed they do not know what is coming, as the tiger does a careful stalk and the quarry is dead within a few seconds of the time it is aware of his approach. The tiger does not play with his kill as does a cat with a mouse: he kills quickly and cleanly. The cat and mouse business is found only in romance."

Again, Colonel A. E. Stewart, in his *Tiger and Other Game,* writes: "I have been asked by some people as to the cruelty in tying up a defenceless young buffalo to give a cruel tiger or panther a meal. I fear they do not understand, nor is it possible for them to think the matter out in the same way as you or I can, who know and understand life in the jungles. Roughly speaking, a tiger or panther will kill twice or three times in a week; for sake of argument let us call it twice a week. This means that in a year he will kill 104 animals for his food. You sacrifice a buffalo, that is certain; but what do you save? Watch a sambar, nilgai or chital doe with her fawn; what a wonderful and beautiful sight. You would not see these two separated or hurt for anything, would you? You have only one longing, just to pat it and protect it. If it would only understand that there is no danger and that you would just love to make friends, to have it, or them, up to your tent and talk to them; just to be a second Mowgli! Yet it is 104 of these delightful creatures

which each tiger takes in the year. Is there any more argument required? . . . The ordinary sahib treats his baits well, and if you feed and water them properly they spend a quiet and restful night. When you tie up a bait and leave it, look back and you will see it is busy feeding, quite content with food and a good place to lie down in. It knows nothing about the dangers of the jungles; I do not suppose it gives them a thought. In the morning it learns to expect you just as the sun is getting up, and you will see it watching for you and glad to see you. If a tiger does come along, then the bait dies; but it is a case of seconds and all is over. The suffering is not half that of the ordinary sheep which is killed by our butchers."

I can endorse these opinions, and I have sat in a machan over a bait at night, with a tiger roaring not far away, as the buffalo continued peacefully to masticate the fodder placed in front of him, until he actually dozed off with the roars still going on in the distance. I do not think that he even knew what the roars were, and I am sure that he did not suffer in any way. However, as I have already said, I do not like this live-bait business and I reluctantly use it only as a last resource, which I would gladly abandon at once if I could find any satisfactory alternative.

Automatic flashlight work is quite out of the question for obtaining photographs of a tiger doing his deadly work. His attack is so rapid that no shutter-speed practicable with artificial light could possibly stop the movement on the plate, even if one knew from which direction the attack would come. Any system of trip-wires near the bait would inevitably be fired by the bait itself, and, in any case, the best moment for making the exposure can be chosen only by the photographer in person. Tigers rarely kill tied-up baits in the daytime, so that the only possible way to produce

such a photograph is to sit in a machan in a tree all night, on moonlight nights, and hope against hope that a tiger will arrive to complete the scene. There are two ways of increasing the chance of a tiger putting in an appearance, and thus reducing the number of blank night-sittings in unhealthy jungles, which are certain, sooner or later, to extract their penalty from the nocturnal watcher.

These methods are:—

(*a*) To study some particular tiger's habits very carefully, and thus to obtain an idea of where he is likely to pass on a particular night. This requires an intimate knowledge of tigers, and a very careful study of the ground; but it can be done, even though failures will be far more numerous than successes.

(*b*) To locate a tiger by means of a kill—either natural or a bait—and then to sit over another bait near the original kill, or at the place where the tiger is likely to drink either before or after eating.

Of these two methods the latter is obviously the better and should be used whenever occasion offers.

Night-sittings in a jungle full of wild animals provide an extremely fascinating, if arduous, form of hunting with the camera, and, although shooting at night, either with or without electric flares, is considered unsportsmanlike by many shikaris, there is no doubt that many of its critics have not sufficient patience to succeed at such sport, nor are they prepared to endure the extreme hardships of sitting perfectly silently all night on an uncomfortable perch, shaking with cold in the winter and tormented by mosquitoes at all seasons of the year. Before I gave up shooting, I sat up all

night on a number of occasions in the winter, and I can well remember getting so cold that the very tree in which I was sitting shook with the trembling of my numbed body. On two or three occasions tigers came near, but I never shot a single one in this way, partly because I could not sit still in the winter, when I did most of my night-sittings, and partly because the light, even on nights when the moon was full, was so difficult that accurate shooting became almost impossible. On one occasion I did fire a shot at what I believed was a tiger, and heard his expiring groans in a thicket near by shortly afterwards. I was delighted at thus bagging—as I thought—my first tiger, and at break of day I hurriedly descended from my tree to examine my prize. My disgust can well be imagined when I found that my "tiger" was a large hyæna, whose stripes had appeared in the moonlight to resemble those of a tiger!

My first attempts at photographing a tiger actually killing his prey took place on the nights of May 26, 27, and 28, 1926. There is a certain fire-line on which I had previously photographed tigers on two occasions, producing the pictures figured on plates xiv and xxx, and I knew that these and other tigers passed along this fire-line at frequent intervals. The weather was extremely hot in the daytime—anyone who has ever lived in India knows what the heat of a May day in the plains is like—so that there was no fear of suffering from cold at night. I therefore arranged a comfortable machan, well camouflaged, and, firmly tying a buffalo-bait to a strong peg and arranging my camera and three flashlamps so that they could be fired simultaneously by pulling a cord, I took my seat at about 5 p.m. It was a beautiful moonlight night and I thoroughly enjoyed myself—except for the attacks of the ubiquitous

mosquito. A wild elephant and two sloth bears came quite near my machan, but there was no sign of a tiger and I regretfully watched the advent of the dawn which followed my first night of failure.

The second night a tiger roared several times at some little distance, my bait taking no notice of these roars; but otherwise the night was uneventful and I returned to the Forest Rest-House in the morning, tired from two nights' lack of sleep, stung many times by mosquitoes, and somewhat depressed by my second failure. I decided, however, that I could stand the strain of a third night running, and sat up again the following evening. The experiences of this night are fully described in the chapter entitled "A night in the jungle" so that I will not repeat them here, beyond mentioning that I was not successful in obtaining the picture I sought.

My next effort took place some three weeks later, when I sat up all night, two nights running, on another favourite tiger track; but I never saw a single living creature on either occasion, and my health began to suffer, so I came to the conclusion that I had better try to locate a tiger by means of a kill, before starting my night sittings. I failed, however, to obtain a kill, and, as I thought the monsoon had arrived, I returned to my head-quarters in Lansdowne for the rainy season. But it happened that the monsoon was to arrive abnormally late that year, so ultimately I went out on tour again at the end of June hoping to get a chance to make one last effort to obtain the picture of my desire. By good fortune I obtained a kill on June 30th and on July 1st I spent many hours of the day searching in the blazing sun for the tiger, in the hope of getting a chance to make some daylight pictures. However, I failed to locate the tiger's diurnal retreat,

so I decided to leave the kill entirely alone the first night, in the hope that the tiger would gain confidence by being allowed to make his second meal completely undisturbed. This he did, and, having dragged the kill some 50 yards, he had another good feed. The following day I again searched hard for him in the heat of the day, but with no more success than on the previous occasion. There was now only a very small moon left, but, as this seemed almost certain to be my last chance of the season, I decided that I would again sit up all night over another bait. I therefore had my machan tied up very quietly in the middle of the day, and placed my new bait in a small clearing on the edge of a pool, at which the tiger was almost certain to drink during the night. It so happened that the only suitable tree was a small rohini and my machan had to be put only some 10 or 11 feet from the ground, which, apart from the increased trouble with mosquitoes, is not safe for an all-night sitting on a dark night. I took my seat at 5.30 p.m., after having examined the tying rope and peg with the greatest care in order to make quite certain that there should be no repetition of my previous failure. Nothing happened until about 9 o'clock, with the exception of an occasional outburst of barking by a kakur, to which I did not pay much attention since I have found by experience that these diminutive deer are only too fond of giving false alarms. The waning moon had not yet risen, and it was now so dark that I could not see the bait at all. I had just begun to think that I was in for another blank night when I heard the heavy crunch of feet on the dry leaves, which told me that, despite my gloomy foreboding, the tiger had really arrived at last. The sound of crunching rapidly increased in volume and I soon realised that there must be more than one tiger; but, as I had anticipated,

my visitors first went straight over to the kill from above, without seeing my bait.

For the next hour they quarrelled violently over their meal, making the most awful growls and snarls as they demolished the carcase, while I, shaking with suppressed excitement, sat pondering upon my foolishness in having allowed my machan to be tied in such an insecure position. Every now and then there would be a terrific outburst of snarling as one of them drove the others away from the kill, and it soon became evident that the party consisted of the tiger, tigress, and large cub which frequent these jungles, all of which are illustrated in this book, and which form the subject of the chapter entitled "An extraordinary tiger adventure." The snarling and rushing about was evidently due to the cub trying to seize portions from his parents' dinner, and one of the parents—the mother probably, as the father had killed the bait and eaten the previous two nights—was obviously extremely hungry and hence in a very bad temper. This quarrelsome feast continued for about an hour, and then, hearing one of the party approaching the pool to drink, I realised that the critical moment had arrived. The doomed bait did not seem very frightened, and, bursting with excitement, I eagerly waited what seemed an infinity of time for the rush which I felt sure would now come. Sure enough, after a slight pause, during which the tiger surveyed the bait but did not make the slightest sound, there came the murderous assault, followed by a short struggle and, although it was too dark to see, I knew that the tiger had seized his prey. At long last it seemed that success had really crowned my final effort. Waiting perhaps twenty seconds, I pulled the string, which resulted in a blinding flash as the three flashlamps went off simultaneously. Hurrah! My

ambition was now indeed fulfilled and the photograph of my dreams had been secured at last! Immediately the flashes went off, there was a terrific crash as the tiger bounded away, and then followed a death-like silence, so intense that I began to think that perhaps I had fired the flashes too soon, and that the bait had broken away and departed at the same time as the tiger. After this silence had continued for perhaps a minute, the snarls and crushing of bones on the previous kill started once more, thus telling me that—strange as it may seem—the remaining tigers were continuing their meal as though nothing had happened, whereas the sudden outcries of sambar some distance away indicated that the attacking tiger had bolted in that direction. Delighted at my success, I waited silently for about another hour, and then, as there seemed nothing more to do, I tried to go to sleep until the moon should rise, when I hoped to be able to see what had happened to the bait. As soon as the moon appeared I gazed anxiously over the edge of the machan, only to find that the bait had disappeared, thereby confirming my suspicions that he must have broken loose and bolted with the tiger when the flashes went off, although it seemed probable that I had secured my photograph beforehand. Nevertheless, a faint but insistent doubt began to creep into my mind, and grew as I dozed fitfully until dawn. At the first sign of day I hurriedly descended from my tree. Imagine my horror when I found the bait lying dead a few yards from where he had been tied. Somehow or other the seemingly impossible had happened, and his foot had slipped out of the tying rope, either before or after death. He was lying in some grass five or six yards away and entirely out of the view of my camera, which meant that, if he had broken loose before I fired the flashlight, all hope of my picture had gone. It

"The tigress returning to the first kill the following night."
(Note. She is lifting her paw over the trip-wire)

was just possible that he had broken away when the flashes went off and had staggered to his present position as a dying effort; but, if he had done that, he must surely have made a little noise, and, as I have already related, the firing of the flash was followed by a single crash and then intense silence.

Hoping against hope that my reading of the night's occurrences was wrong, I subsequently developed the plate and found —a fine negative of a peg standing up in solitary glory in a bare patch of grass!

There were fang marks on the nape of the bait's neck and also on the throat, in addition to claw marks on one shoulder, and by 10 a.m. the following morning these marks were covered with the eggs and larvæ of blow-flies, while the whole corpse had begun to smell. A regrettable feature of the whole incident was that, had there been even a small moon, I could have seen the tiger's method of attack clearly and should have realised that it was useless to fire the flashlight with the subjects out of the picture.

This adventure gives one some idea of a tiger's speed in dealing with his prey. I estimate that only 20 seconds passed between the moment of attack and the time of the firing of the flashlight and yet the animal was killed stone dead and removed some yards during that incredibly short time.

It seemed that my luck had departed entirely, but, as my work necessitated my staying one more day in this locality, I put my automatic flashlight apparatus over the path by which I thought the tigress—it was the tiger who killed both baits—would probably return to the first kill the following night. And such is the perversity of fate, I thereby secured the picture of the tigress figured on plate xxxii, this being one of the very few pictures

of tigresses we have ever obtained. It is to be noted that this effort was, as usual, followed by an attack of fever.

My next attempt took place after the monsoon in November. A different tigress, accompanied by a large cub, had killed one of my baits, which had been tied at cross-roads, and, owing to the foolishness of the man who had tied up the bait, the securing rope had been made so strong that, despite every effort, the tigress had failed in her attempt to take her prey into dense cover. The carcase was thus left lying in the open, where, had I not had it covered with branches, it would very soon have been devoured by vultures. A tiger rarely returns to a kill which he has had to leave in the open—he must know that it is almost certain to be eaten by vultures—but I thought that I would try once more, and, as this was my seventh all-night sitting, I hoped that, like Robert Bruce, I might succeed at last. I therefore started my vigil over a fresh bait, tied near the carcase, at about 5.30 p.m. and on a night with a good moon. I took plenty of bedding as I find that these all-night sittings nearly always result in fresh attacks of fever, and, although the tigress did not put in an appearance, I spent quite an interesting night watching the jackals and hyænas demolish the carcase. At intervals these carrion beasts would suddenly rush away from the kill, and, as such periods of fright generally coincided with warning cries from neighbouring sambar and chital, I was kept constantly on the alert in the hope that the tigress really intended coming after all. On two occasions the jackals became extremely agitated, and, after rushing about for a time, one of them sat down in the full moonlight in the open *sot* bed in front of me and proceeded to give vent to a series of the blood-curdling cries called "pheau" in India and discussed in another chapter. When

making this weird noise, which is thought by many to denote the presence of a tiger, the jackal sat almost vertically on its haunches, and, holding its head straight up to the sky, made the whole neighbourhood vibrate with the violence of its cries. Between each high note there was a kind of low gurgling, which, adding to the ghostly effect of the scene, suggested that the jackal was, in truth, baying at the moon. I believe that this "pheau" note of the jackal is a cry of fear, which may or may not be caused by the presence of a tiger or leopard, and, in this case, it seems probable that the tigress was somewhere in the vicinity, and the jackal, either seeing or smelling her, warned the whole neighbourhood of her presence. On another occasion one of the hyænas, carrying a bone in his mouth, suddenly rushed away from the carcase, and came straight towards my live-bait, which proceeded to butt at him in a most vigorous fashion. The two animals, the hyæna with the bone in its mouth and the tied-up young buffalo, then stood face to face for some little time, with perhaps a yard separating them, until the hyæna, thinking discretion the better part of valour, left the buffalo and came right up to where my camera and flashlamps were arranged. He sniffed at these for a while and then, thinking all was safe, sat down between them to chew his bone in peace for the next half hour. I presume that he must have thought that the tigress was perhaps coming, so that he would sit in a place of safety until all danger was past. Had I fired my flashlight with him in that position, he would have been almost blinded by the glare and would have had as much of a shock as he would have had even if the tigress herself had driven him from the kill! However, the tigress never came and once again my patience was to go unrewarded. I regret now that I did not fire the flash-

light at the hyæna facing the buffalo, as that, at least, would have produced an interesting and amusing picture; but then, as in many other matters in this world, it is so easy to know what one ought to have done after it is too late to do it.

I did not get chilled on this occasion and I was not stung by mosquitoes, but, nevertheless, the inevitable fever arrived again the following day. I do not ordinarily suffer much from fever, but these night-sittings in the Indian jungle seem extraordinarily prone to result in such attacks, however carefully one prepares against them. Perhaps it is the exposure to the heavy fall of dew, combined with the excessive strain on one's nerves.

A few days after the above episode I had another tiger-kill, and, as my fever was due on the second night, I decided to sit over a fresh bait the first night, until 10 o'clock only, and thus avoid the exposure to the dew, which is deposited mainly in the very early morning. On this occasion I was accompanied by my wife and we started our watch at about 4.30 p.m., having driven a leopard off the kill as we were arranging our apparatus. My wife saw the leopard cross the fire-line shortly before we got into the machan and its saw-like note was continued at intervals during the whole time we were sitting in the machan. Just after night-fall our hopes began to rise, as the tiger, moaning gently as he approached, drew gradually nearer and nearer, evidently on his way to drink at the pool within a short distance of our post. After satisfying his thirst, we thought that he was nearly certain to attack our fresh bait, which was placed exactly between the pool and the kill, although out of sight of either; but no, our run of bad luck was not to be broken, and, instead of coming our way, he circled about in every direction but ours, keeping our nerves on edge all the time by moaning gently at intervals. I do not think he heard or

saw us, nor was he suspicious in any way, but probably he did not feel hungry after his heavy meal the previous night. This moaning was obviously not a hunting cry, since he had plenty of food near by, nor was it a cry of suspicion, and I would suggest that it may correspond to the purring of the domestic cat. The tiger had had a good meal the night before and he had more food available, yet he did not touch this food but circled about slowly to the accompaniment of these gentle moans. A leopard had been stealing his kill in the daytime and was still hanging about, so that the object of the circling round may have been to drive the leopard away. It is interesting to note that we heard the tiger moaning and the leopard "sawing" at the same time, which must surely be a somewhat unusual experience. At 10.30 our elephant arrived and we had to leave the place, as usual, without having got any nearer to achieving our object of photographing a tiger in the act of killing his prey. The second night, as I had anticipated, I had a little fever and thus could not sit up again. The third morning, however, I visited the spot, and, sure enough, there were the tiger's tracks over the exact spot on which we had tied the fresh bait the first night, so that, had my fever permitted me to sit up on the second night—the best time—I would have been almost certain to have succeeded in making an exposure.

My last effort at obtaining a photographic record of a tiger killing his prey took place a month or two later in February, 1927. A large tiger had attacked some graziers' cattle and had killed a very valuable buffalo and her calf, so I decided to sit up all night over a fresh bait with the idea of obtaining a photograph, if possible, and, if not, of shooting an animal which had done so much damage. I was comfortably settled in my machan

by 4 p.m., and, as the moon was full, I eagerly looked forward to a night of excitement, and possibly of success. Nothing happened until dark and I was listening to the cries of the various birds which go to bed at dusk, to be replaced almost immediately by the birds of the night, when a low rumbling of thunder started in the distance, and I realised that my last night-sitting was not going to be so pleasant as I had anticipated. Slowly the storm mounted, leaving me in constant doubt as to whether it was going to pass over or not. But no! India never does things by halves. The moon rapidly disappeared for good, violent lightning started, and down came a deluge of rain, which, being driven by a strong wind, soon soaked my camera, flash-light-apparatus, bedding, and finally me. Imagine my position. I was wet through on a cold winter night and certain to get fever if I did not get away; the forked lightning was dazzling and I had a rifle and electrical apparatus with me which might attract the flashes at any moment; all hope of my picture was gone; I had no lantern; I was in the middle of a pitch dark jungle with probably a tiger near by; and I had ordered my elephant men not to come for me until the morning, whatever happened! Yet I was not to be left in my predicament. I was just trying to nestle inside my soaked blankets when I heard a low whistle in the distance. I paid no attention at first, thinking it must be some bird whose note I did not recognise; but it was repeated again and again until at last I realised that it must be one of the elephants come through the storm to fetch me home. I replied joyfully and soon "Chandramala" appeared on the scene, having been sent out by my wife, who considered it her duty to cancel my orders rather than leave me to be struck by lightning, to get a really bad dose of fever, or worse, to try to find

my way home alone in the dark through a jungle infested by tigers, bears, and wild elephants.

Hastily coming down from my machan with the help of my men, we all tramped the four miles back to camp, which we reached at about 1.30 a.m., to be greeted by my wife, on arrival, with hot bovril for me and scalding tea for the men. This was the last chance I have had to produce the photograph on which I have set my heart, before this book is due to go to the publishers, so I fittingly end a story of repeated failures with the words of Longfellow:

> "When I compare
> What I have lost with what I have gained,
> What I have missed with what attained,
> Little room do I find for pride."

Chapter 8

LEOPARDS AND THE SMALLER CATS

"The tiger is, as a rule, a gentleman. The panther, on the other hand, is a bounder." GLASFURD.

INDIA has many pests, but it is doubtful if anything is more detested than that most beautiful creature, the panther or leopard. Indeed, from one end of India to the other, it would be difficult to find anyone to say a good word for *Felis pardus,* unless it be the many sportsmen who derive pleasure from hunting him; and even these will generally admit that a leopard is much better dead than alive.

Leopards are widely distributed all over India, and even the fact that they are classed as vermin by Government, with a price on their heads, seems to do little to diminish their numbers. Some 5,000 are destroyed annually; but leopards require so little jungle to provide them with shelter, and are so prolific and widespread, that even this heavy casualty list seems to make little, if any, difference to their numbers.

The ordinary forest leopard is not generally dangerous to human life, unless wounded or interfered with; but, when it is a case of a leopardess with cubs, leopards are generally admitted by sportsmen in India to be more dangerous than tigers, since they can remain concealed in such a way that the incautious sportsman following them up only too frequently gets fatally

A leopard on the prowl by night

mauled before he has time to use his weapon. The forest leopard, however, is appallingly destructive to deer and the numbers of deer which must be destroyed annually is beyond computation. As an example of this, the figures for the Reserved Forests of which I hold charge are instructive. These forests cover some 300 square miles of Himalayan foot-hills, and, at the lowest estimate, there cannot be fewer than forty leopards permanently in residence. These leopards feed very largely on the beautiful Indian Spotted Deer (*Cervus axis*), and each leopard, at a very modest estimate, kills at least one deer every fortnight. Hence every year, in one small forest alone, leopards must destroy a thousand or more deer, many of which are the pregnant hinds which fall so easy a prey. With similar damage being done all over India, wherever deer occur, the annual mortality from leopards must reach so huge a figure as to make one wonder how deer ever manage to survive in the numbers they do.

In the cultivated parts of India, also, leopards occur in considerable numbers, and, there being few or no deer in such places, these leopards are forced to subsist on village cattle, dogs, and wild pigs. They are welcome to the last-named, since the Indian wild pig is terribly destructive to crops; but they are cordially hated by the poor cultivator for the many cattle they destroy, and equally by the European dog-lover, who frequently takes his favourite dog for a walk once too often, with the result that the poor beast ends an exotic existence in the stomach of an enemy-to-dogs, which, away from big towns, is far worse than even the many diseases to which the canine tribe is so prone in the tropics.

The leopards living in the high hills are generally the worst

type of all, in that they are often hard-pressed for food, with the result that they become even more destructive to cattle and dogs, and tend to develop into man-eaters—and an Indian man-eating leopard is probably the worst four-legged fiend in the whole world. True it is that tigers annually kill more people than do leopards; but many of these are more in the shape of accident than deliberate intent, whereas, when leopards take to man-eating, their smaller size, great activity, and devilish cunning make them by far the more dangerous and difficult of the two to circumvent.

The photographs included in this chapter have all been taken in the lower portions of the civil district of Garhwal, the higher regions of which were terrorised for 9 years by one of these man-eating fiends. This animal, which becomes famous under the name of the "Rudrapryag man-eater," killed 125 human beings before ultimately it was destroyed, in 1926, by Captain J. Corbett, and even then only after many months of untiring pursuit.

The killing of such a leopard is notoriously troublesome and in this case the natural difficulties were accentuated by the fact that the man-eater lived in high mountainous country, where there is little jungle suitable for beating and where the use of elephants was obviously quite out of the question. Another difficulty was the wandering habits of this particular animal, which ranged over a considerable tract of country, in most of which it was almost impossible for the pursuing sportsman to move rapidly from one place to another in order to follow up kills. Again, the local people are extremely superstitious and were thus loath to give news of the brute's whereabouts, because they believed that they would be haunted by the animal's spirit,

A leopard cub which was brought in to me in camp. (Note the short tail of a leopard cub)

should they assist in any way in encompassing its destruction. Accounts of the campaign against this leopard were published from time to time, during 1926, in the *Pioneer,* and poison, traps, spring-guns, and sitting-up over kills all failed at first to bring the fiend to book, although his escapes were narrow and frequent. In one case the man-eater actually consumed large quantities of perchloride of mercury, put in the carcase of a cow he had killed; but this poison does not appear to be so satisfactory as arsenic or strychnine and the large doses he devoured did not result in his demise. The chase was then left for the time being, and for the reasons given in the following extract from a letter, written by the Deputy Commissioner (Captain A. W. Ibbotson, M.C.), which was published in the *Pioneer.*

"The man-eater should be left alone now until March; he gets very few human-kills in the cold weather, and constant pursuing will only increase his already phenomenal wariness. If he is left alone for these months, Captain Corbett will come again in March and we will both then make a protracted and determined effort to get him. I think, with strychnine in capsules and other devices that Captain Corbett and I have now in view, we may stand a chance of bagging him in March or April. I do not think it necessary to get Government formally to remove the reward, but I am letting it be generally known that the panther should be left undisturbed and allowed, as far as possible, to eat everything he kills for the next three months. I shall similarly discourage amateur sportsmen from going to try after him until Captain Corbett has had his chance to make the really great effort that he proposes in March. The idea of removing the Government reward on the death of this leopard is that the person who is willing to take the risk of killing the leopard wants

no reward, and the person who wants the reward is not always willing to take the risk of killing the leopard, so that the offer of the reward does no good, but, on the other hand, does a great deal of harm. The people in the affected area believe that Government is willing to give Rs 10,000 and four villages for the destruction of the man-eater, and, with a reward of these dimensions in prospect, co-operation between the people and the person who is out to kill the leopard is impossible."

The campaign was thus taken up again in the spring of 1926. A human-kill was poisoned on April 1st and the man-eater consumed part of the poisoned body, but apparently with no ill effects. Spring-guns were then tried over the next kill and again failed, as also did a huge gin-trap, that caught no more than a tuft of hair, which was found sticking in its jaws after the leopard had once more escaped. Captain Corbett then decided that he would sit up all night over a tethered-goat, for at least ten nights, close to a favourite pilgrim-shelter near Rudrapryag; but, as the end of the tenth night still brought no sign of the leopard, he decided to have one last try and sat up again in the same place for the eleventh consecutive night. This was the 1st May, 1926, and, at about 10 p.m., Captain Corbett heard something rush down the road and the bell on the goat tinkle. Straining his eyes, he saw an indistinct blur, in the direction of which he pointed his rifle. He then switched on his electric torch, and, finding that the bead of his rifle was drawn on the body of a leopard, he fired, whereupon the leopard made one bound and disappeared. All this happened in little more than a second and the leopard got away so quickly that, had not Captain Corbett very luckily found, when he switched on the light, that he was already covering the leopard with his rifle,

A leopard seizing a chital hind, which he had killed a day or two earlier

he would have had no opportunity of adjusting his aim before the leopard departed. Captain Corbett naturally spent a very anxious night after firing this shot, as he did not in the least know whether he had killed the leopard or not. The moon, which appeared at 3 o'clock in the morning, did not reveal any sign of it, so he started to search on the break of day and ultimately found blood-tracks, which led to the leopard, lying dead in a hole into which it had fallen 50 yards down the khud-side.

There were sufficiently good reasons for identifying this leopard with the man-eater. In all the human-kills by the Rudrapryag leopard there had been three teeth-marks, showing that the man-eater was one short of its full complement of canine teeth. The leopard shot by Captain Corbett had one canine tooth broken. The man-eater had been shot at, three years previously, by some military officers, and, on that occasion, had left behind smears of blood, which indicated that it had been hit in the foot. Captain Corbett's leopard had the mark of an old bullet-wound in the foot. Moreover, a piece of hair was missing from its right hind-leg, where there was a recently-healed scar, which evidently accounted for the tuft of hair found in the gin-trap. About the animal's body were a number of old scars and other more recent ones. Two weeks before its death, Captain Corbett had heard two leopards fighting, and this suggests how the man-eater came to receive these scars. In various ways the appearance of the leopard agreed with the usual theory concerning man-eaters. It was a light-coloured and evidently very old animal, with an indifferent coat and practically no whiskers. Its length was 7ft. 10ins. round the curves, which is an exceptional size, particularly for a hill leopard. Thus ended the career of one of the worst man-eaters in the history of India, and

it is to be hoped that even those Indians who profess to see nothing but evil in the "Satanic Government," and the British generally, appreciate to some extent the enormous boon conferred on Garhwal by Captains Corbett and Ibbotson in ridding the country of this awful pest.

As a photographic subject, a man-eating leopard obviously cannot be considered. The ordinary jungle leopard should be somewhat easier to photograph than the tiger, in that he is commoner and less nocturnal, but, personally, I have been more successful with the larger animal, partly because I have given more time to tigers, but mainly because I have been singularly unfortunate in my efforts to photograph leopards.

I have frequently come across leopards at all hours of the day, when wandering about on Balmati, but one generally gets only a fleeting glimpse among the bushes or grass, and leopards are so active that they barely give one time to focus one's camera before they are off again. Twice have I had excellent chances, but each time things went wrong. The first occasion was once in the hot weather, when I suddenly came right upon a leopard, at about 10 a.m., just as he was in the act of stalking some sambar hinds in an open dry nallah-bed. My camera was in my hand, all ready for action, and I was just about to press the shutter-release when agitated whispers of "Maro, maro" ("shoot, shoot") came from the mahawat and orderly, as I felt my rifle being pushed into my hand. From force of habit—all dog-lovers hate leopards—I took the rifle and shot the brute before I knew what I was doing. I had not the faintest desire to shoot any more leopards from a shikar point of view, and this foolish shot cost me an excellent picture, which would have been mine by the mere pressing of the shutter-release! Indeed, the leopard

A leopardess holding her tail vertically in the air

was so intent upon his hunting that he never saw us at all and I could, in all probability, have made several exposures and still have shot the leopard afterwards, if I had wanted to do so—which would not have been the case had I paused for even a moment's reflection.

The second occasion was nearly as bad, although this time the fault was not mine. We had had a buffalo-bait killed by leopards, and, as is our usual custom, we searched the neighbourhood carefully, in the middle of the following day, in order to try for daylight photographs of the slayers. Failing to find the leopards, however, we went to the kill to arrange the flashlight apparatus, and left the mahawat on the elephant to see that the leopards did not arrive in the meantime and watch our operations. After about half-an-hour, we were startled to hear most violent whistlings from the mahawat, who had discovered the leopards lying in a beautiful photographic position, which we had, somehow or other, managed to miss during our search. The noise and gesticulations made by the mahawat were enough to frighten away any leopards, however daring, so we paid no attention, but went on with what we were doing until at last the mahawat, in desperation, brought the elephant up to us with a rush, shouting that he had found the leopards and that they were still there! It seemed quite hopeless, but, in the end, we went with him and actually did see one leopard under a bush, where we could not take photographs. This mahawat, a young man of about 20, really did mean to do his best, but he has little experience of big-game and lost his head to such an extent as to spoil the whole chance. All he had to do, on seeing the leopards, was to retire without disturbing them and then bring the elephant up to us, so that we could have stalked them with the

reflex camera in the usual way. I think the mahawat realised, in the end, what a mess he had made of an excellent chance, but it takes some years of experience of big-game before the average man can keep quite calm on a sudden and unexpected meeting.

As a flashlight subject I have also found leopards troublesome, for a number of reasons. Firstly, one finds very few natural-kills, so that one is forced to tie out goats as baits and these goats are frequently found by tigers, which consume them entirely at one sitting and then pass on. Again, leopards sometimes take the goats right away, in spite of every precaution, and, in any case, the ordinary jungle leopard is not particularly interested in goats and is not attracted by their bleating in the way that are village leopards. Also, goats are much more nervous and sensitive animals than buffaloes, so that humanity demands that they be used as little as possible. Some sportsmen tie up village-dogs as baits for leopards, but, personally, I dislike tying up any domestic animal as a bait and I absolutely draw the line at dogs. It will thus be seen that it is not easy to obtain leopard-kills in tiger-country, and, even when one has at last obtained a kill, all the usual difficulties of other animals firing the flashlight, before the arrival of the leopard, have to be faced, and 18 kills, of which 6 have been natural, have resulted in the production of only 1 good and 4 indifferent leopard photographs. The good photograph is reproduced on plate xxxv and shows a male leopard seizing a chital hind which he had killed a day or two earlier. We happened to pass near the spot where this leopard was lying up in the daytime and were attracted by the agitated cries of langoors, which, in my experience, tend to call more violently for leopards than for tigers. A

"A small leopard caught in the act of stealing from the kill of a tigress"

prolonged search ultimately resulted in our finding the chital's carcase, which gave us this picture. This leopard returned and finished the kill after being photographed, and leopards generally seem to be much less frightened than tigers of the noise and light of flashlight, frequently returning to a kill over which they have already been photographed, whereas tigers very rarely do so. On another occasion, a leopardess fired the flashlight at about 4 p.m. and returned again before 6 p.m., only to fire the flashlight, which had been reset in her absence, a second time within two hours and both times before dark. The second time the leopard was nervous and came too fast to give a satisfactory picture, whereas the first time I spoilt what would have been a good photograph by inaccurate focussing. I also spoilt, in the same way, another good chance of a picture of a different leopardess, which is, however, shown on plate xxxvi. Obviously this picture would have been much better had the focus been a little further forward. This leopardess, also, removed the kill after she had fired the flashlight, and it is to be noted that she is holding her tail vertically in the air after the manner of the ordinary domestic cat.

I have found that leopards are much more difficult to photograph on paths than tigers, partly because they use them so very much less, but largely because they nearly always seem to find the trip-wire and step over it without touching it. It seems to be quite useless to attempt to catch a leopard on a path, with a trip-wire, on a moonlight night, and even on dark nights they will find any but the darkest and thinnest wire. Indeed, although leopards have passed my trip-wire on a number of occasions I have only once succeeded in making an exposure on one in this way, and the resultant picture is reproduced on plate xxxiii.

Leopards steal from tiger-kills quite frequently, and the picture on plate xxxvii shows a small leopard, caught in the act of stealing from the carcase of a buffalo, which had been killed by a tigress. The tigress returned to her kill later in the night, and the expression on the leopard's face suggests that he was a little nervous of the tigress arriving to claim her rightful prey at any moment—possibly with disastrous results to the thief!

There are a few other points in connection with leopards which I should like to mention. Leopards do not care for water, but, according to Dunbar-Brander, they can swim well, if actually forced to do so. They sometimes take their prey up into trees, probably with the idea of keeping it safe from tigers and hyænas. On one occasion I saw a large chital stag, which had been dragged well up into a tree, to a height of twelve feet or more, and yet this stag must have weighed considerably more than the leopard, which had, in some extraordinary way, managed to haul it up there.

The peculiar saw-like note of a leopard is, like the various cries of a tiger, not fully understood. I have heard it made when a leopard has been disturbed, but also, on other occasions, when leopards were presumably on the hunt. Like the moaning of a tiger, this "sawing" must apparently warn the whole jungle population of the presence of their dread enemy, and one is at a loss to explain how these great Carnivora can succeed in their hunting when they seemingly handicap themselves by warning their prey of their presence. Yet do they really handicap themselves? I have several times disturbed leopards when they have been in the act of stalking chital, and the leopard has generally disappeared, into thick grass, for as long as I have remained in the neighbourhood. The agitated cries of the chital cease

"The Leopard-cat is a beautiful creature"

almost as soon as the leopard is out of sight, and, with them, "Out of sight, out of mind," appears to be a true maxim, although the leopard may still be only a few yards away, and merely waiting for a good opportunity. If chital can forget so terrible a danger almost directly it passes out of their actual vision, it seems to me more than possible that they do not couple the moaning of a tiger, or the "sawing" of a leopard, with the presence of their dread enemies.

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Of the smaller Carnivora, there are two species of wild-cat which are common in these jungles—the Leopard-Cat (*Felis bengalensis*) and the Jungle-Cat (*Felis chaus*), both of which occur everywhere, although they are not often seen. Both species move about both by day and by night, and feed largely on the jungle-fowl and other game-birds of the forest, to which they must do a great deal of damage. The leopard-cat is a very beautiful creature, somewhat like a diminutive leopard, and it is said to be extremely savage and untamable. I have seen these cats on several occasions, and, meeting one in long grass one day, as I was riding on Balmati, I watched it hunting for mice for a considerable time. Owing to its small size and the intervening grass stems, it was not an easy subject to photograph, and several exposures produced only one passable negative, an enlargement from which is figured on plate xxxviii.

The jungle-cat appears to be commoner than the leopard-cat, and I have made a good many exposures on them, from a tame elephant, at one time and another. They do not seem to be in the least nervous of tame elephants, and I have got so close to them in long grass that I have actually had difficulty in restraining the

elephant from striking at them with her trunk. Their habit of creeping in long grass, in the search for mice and small birds, makes them a difficult subject to photograph, but two pictures are reproduced on plate xl. It is a pity that neither of these pictures shows the barred tail, which is the most characteristic marking of this interesting creature. I once obtained a good flashlight-photograph of a fine representative of this species, as he was in the act of approaching a tiger-kill. His tail was held vertically in the air and the whole formed a delightful picture, which I foolishly ruined by quite unnecessary intensification.

Two or three species of Civet-cat also occur, but these creatures are almost entirely nocturnal and are thus very rarely seen, although I have no doubt that many could be caught in traps, should one so desire. Twice they have fired automatic-flashlights, which had been arranged for tigers, and one of the resultant pictures is shown on plate xxxix. This animal has been identified by the Honorary Secretary of the Bombay Natural History Society as the Small India Civet (*Viverricula malaccensis*), but it does not appear to agree entirely with the figure or description of this species as given in Blanford's *Mammalia*.

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The Common Indian Mongoose (*Herpestes mungo*) occurs in considerable numbers near cultivation, but it is rare in dense forest and I have no experience of it whatever as a photographic subject.

The small Indian Civet-cat (*Viverricula malaccensis*) eating a tiger's kill

(*a*)

(*b*)

(*a*) and (*b*) The Jungle cat (*Felis chaus*)

Chapter 9

HYÆNAS AND OTHERS

"They are only resolute they shall eat
That they and their mates may thrive,
And they know that the dead are safer meat
Than the weakest thing alive."

KIPLING.

HYÆNAS have always rather interested me, partly because they are universally despised and partly because so little appears to be known about them—or rather about the Indian species, *Hyæna striata.* Most of the well-known authors on shikar in India have disparaging remarks to make; but few, if any, even of the natural history works, add anything to our knowledge of this creature, which is not usually considered as worthy of notice. But surely this is not a fair attitude for a naturalist, to whom the habits of all creatures, however revolting, should be worthy of study, and I have always gone out of my way—with remarkably little success it must be admitted—to make a study of the habits of this animal.

Writers on animals in Africa have been much more prolific in their observations on the commoner of the two African species —the Spotted Hyæna (*Hyæna crocuta*)—and a number of interesting notes on the subject have been published from time to time. Radclyffe Dugmore, in his excellent work, *Camera Adventures in the African Wilds,* makes the following remarks:—

"Burial by the natives of the East African tribes is very rare, old people who have lost their teeth, mothers of very large families and distinguished chiefs being about the only ones entitled to burial. Many tribes believe that to have anyone die in a hut brings bad luck, so, as the end approaches, the wretched person is carried out and placed under a tree (if a tree be convenient), away from the village, to be devoured by the hyænas! On this account the natives will not kill these 'living tombs' of their people."

To the best of my knowledge, nothing of this sort occurs in India, although hyænas may sometimes be guilty of dragging corpses out of the shallow graves, which are all that are made when plague or cholera breaks out in epidemic form. This applies only to the remains of Mohammedans, since Hindus burn their dead, and the remains, if any, are cast into rivers, preferably holy rivers, such as the Ganges. In the case of poor people, and if dishonest domes (corpse burners) are employed, the body may be only half-burnt, and then floats off down the river in this condition, soon to be attacked by crows and vultures from the air above and by crocodiles from the water beneath. Parsees, as is well known, place their dead in "Towers of Silence"—high walled-in platforms open to the sky above—from which they are speedily removed by the myriads of vultures which haunt such places. It can thus be seen that the Indian hyæna, whatever the sins of his African cousin may be, does not normally get very many opportunities of interfering with the dying or dead of human beings, whereas, on the other hand, he performs an extremely useful service to mankind as a general scavenger. He is particularly useful in this way in forest tracts, since his keen nose enables him to find many a defunct animal,

which escapes the sharp eyes of vultures owing to the dense cover in which it may be lying. Vultures can find carcases only in places open to the sky, so that, if it were not for the help of hyænas—and also jackals and wild pigs—many an odoriferous carcase would remain for weeks at a stretch to pollute the neighbourhood of what might be one of the most beautiful parts of the jungle.

In this connection it is curious that hyænas should seemingly prefer to live in open hilly country, in which vultures must be serious competitors for their food supply, whereas such competition is practically eliminated in dense forest, where these great birds, which rely almost entirely on eyesight, find it difficult to locate dead animals.

According to the *Fauna of British India,* hyænas occur throughout the Peninsula of India, rarely in forests and commonly in open hilly country. They have not been recorded from Ceylon or Burma, and are rare in the damper portions of Bengal. It is commonly stated, as above, that hyænas are rare in forests; but this is not my opinion. I believe that there are large numbers of hyænas in many forests; but they are so nocturnal in their habits, and the forests are so dense, that they are very rarely seen, unless one specially looks for them. Sportsmen do not consider them as game and take no interest in them, although they quite frequently appear in beats for other animals. Even experienced Forest Officers sometimes imagine that hyænas do not occur in forests, where an early morning examination of the footprints on sandy roads would show that these animals had passed in many places during the night. The footprints are very distinct and with a little experience cannot possibly be mistaken for those of any other animal. The nails all show

distinctly in the track, which at once distinguishes it from those of all members of the cat tribe; whereas the extraordinary disproportion between the size of the prints of the fore-feet and those of the hind-feet clearly separates the tracks from those of the wild dog—the only other animal to which they might, by mistake, be attributed. In the high mountains of Garhwal hyænas are scarce, and, according to the *Garhwal Gazetteer,* the few specimens killed are attributed by the local people to the mating of a tiger with a bear.

Hyænas live in caves and holes, and emerge just at dusk on their nocturnal wanderings. They commonly move along roads and dry nallah-beds in the same way as tigers, so that their footprints are very easy to find. Their normal pace is a fast walk, and, when unsuccessful in finding food, they must travel many miles in a single night. The photograph on plate xli shows a female hyæna on her nightly prowl, as she was passing along a track at the edge of a nallah-bed. This picture was taken by flashlight at 1-200th of a second, and is full of life and suggestion of movement. The eyes are very expressive and remind one of Kipling's well-known lines

> "After the burial-parties leave
> And the baffled kites have fled;
> The wise hyænas come out at eve
> To take account of our dead."

Hyænas may quite often be seen in the very early morning, and at times they lie up in long grass during the day, instead of returning to their homes. In the cold weather they sometimes lie in the open, near the mouths of their holes, evidently for the

"The wise hyænas come out at eve"

sake of the warmth of the morning or evening sun. On one occasion I knew of a hyæna who was in the habit of doing this, so I turned him into his hole and set up my flashlight apparatus so that he himself was bound to fire it off when he emerged again. This was in the evening at about 5 p.m., and he came out and fired the flashlight a very short time afterwards. The position happened to be a very favourable one for photography, so much so that I set about developing the plate with great eagerness, quite confident that I had obtained a good picture. Imagine, then, my disappointment when the developer failed to have any action whatever on the plate, thereby proving that the latter could never have been exposed. On investigation it proved that, after spending an hour or more in arranging my automatic flashlight apparatus with the greatest care, at the last moment I had foolishly forgotten to set the shutter! One cannot be too careful over the many little adjustments required for success in the art of automatic flashlight-photography, and the least carelessness in one's arrangements inevitably results in failure. A good plan is to write down everything that has to be done on a large piece of cardboard, which can be carried about in the camera case. Such a piece of cardboard is very useful for helping one to focus in dark places, and, before finally closing the electric circuit, all the adjustments should be checked from the notes on the card, which thus serves a double purpose.

The kills of tigers and leopards are frequently visited by hyænas, either when they are deserted, or surreptitiously, when the rightful owner is not present. Dunbar-Brander states that hyænas often annex the kills of leopards, and that he has known them, not only to prevent the leopard from coming up, but even

to attack him on the kill and drive him off. The leopard seems to recognise his master, which is very curious, considering that leopards will readily kill dogs as big as hyænas. Major-General Nigel Woodyatt, also, in his *Sporting Memories,* remarks that a leopard will desert his kill if a hyæna takes possession and that he considers it useless to sit in a machan, if hyæna-tracks are found near a leopard-kill. My own experiences do not, however, agree with those of the above-mentioned authors. It seems extraordinary that the hyæna, so universally despised for cowardice, should be able to drive away, from his own kill, the more powerful and active leopard, and further observations on the point would be of great interest.

The normal food of hyænas is carrion in various degrees of decomposition; but they also kill a good many fawns of chital and other deer, and graziers in forest land often complain of their depredations among the newly-born calves of their cattle. They very rarely seem to touch goats or young buffaloes tied up as baits for the larger Carnivora, and I have never seen a record of an Indian hyæna having killed a full-grown uninjured animal of any size. Mr. J. Whitehead, I.F.S., tells me that once, at Banda, he witnessed a hyæna kill a tethered-goat, over which he was sitting in the hope of shooting a panther. The hyæna came up to the goat and the two animals stood facing each other for some little time. Then, suddenly, the hyæna dipped like lightning under the goat's head, and seizing the animal's neck in his powerful jaws, he gave one bite, on which the bones of the goat's neck cracked like an egg-shell. A moment afterwards, the hyæna gave a powerful tug, which broke the tethering-rope, and he was off with the goat before Mr. Whitehead could get in a properly-aimed shot. Hyænas sometimes bear off small

"Like phantom shadows flitting from place to place"

children, if left unattended, and in the Government returns for 1924-25, nineteen persons are shown as having been killed by hyænas. The details of these nineteen cases are not available, but it is more than probable that some of them were wrongly attributed to hyænas and the remainder were very small children.

The African spotted-hyæna appears to be much bolder. Theodore Roosevelt, in his *African Game Trails,* states that, not infrequently, hyænas kill mules and donkeys, tearing open their bellies and eating them while still alive. The same author records that, in 1908 and 1909, when sleeping-sickness was rife in Africa, the hyænas grew much bolder and haunted the sick-camps every night, often bursting into the huts to carry off and devour the dying people. To guard against them, each little group of huts was enclosed by a thick hedge; but the hyænas soon learnt to break through the hedges, and continued their ravages to such an extent that it ultimately became necessary to employ armed sentries for patrolling the camps every night.

From all accounts, the African spotted-hyæna is an extremely noisy animal, whose howling is familiar to every one who has lived within its habitat. The Indian hyæna, on the other hand, seems to be distinctly the reverse, and although I have spent several years where the species is common, I have never yet heard one make a sound, even when hit with a bullet; and, at night, they move so silently that they give one the impression of phantom shadows flitting from place to place—see plate xlii. Dunbar-Brander records that, in the Central Provinces, hyænas make two noises, the commoner of which is a sort of chattering-laugh and the other a weird form of howling.

My men once found, in an open hole, a litter of five very small hyæna cubs and brought them in to me. They were just like hyænas in miniature, except that they had snub-noses, whereas the nose of a full-grown hyæna is not of that shape. I had them placed back in the hole the following day and the parents found them and took them away, even though they had been missing for a whole night!

"What a life a hyæna must lead! Afraid even of his own shadow, he is shunned by all animals save only the jackal, with whom he sometimes associates in his filthy feasts. No one has a good word to say for the carrion beast and he appears to feel the world's attitude if we may judge by his hang-dog expression and skulking ways."—A. Radclyffe Dugmore.

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The jackal is a creature familiar to everyone in India, and it replaces the fox in some neighbourhoods, such as Peshawar and Ootacamund, where it is possible to do any hunting. Its extraordinary howling, commonly described as "Dead Hindu, dead Hindu, where are you, where are you," is one of the commonest sounds of the Indian evening, and always gives one a somewhat eerie feeling. It is not a beautiful sound and I think that Bishop Heber must have been disturbed in his work when he wrote:

> "A truce to thought—the jackal's cry
> Resounds like sylvan revelry."

Jackals seem to prefer to keep near civilisation and are not often seen in dense forests, except, perhaps, in open sandy river-beds. They are generally in pairs, but sometimes

collect in considerable packs. They breed in holes in the ground and banks, and they must keep their puppies in their homes until they are nearly full-grown: at least, I can never remember having seen a baby jackal during fourteen years in India.

I have already referred to the weird "pheau" alarm-cry of the jackal on page 102. As I have said in that place, many sportsmen in India believe this cry to be a certain indication of the presence of a tiger or a leopard; but I am quite sure this is not the case. I think the cries referred to on page 102 were due to the fact that the tigress was near by, and on another occasion my wife and I saw a leopard one afternoon, about 4 o'clock, actually make a rush at one of a pair of jackals. He missed, whereupon both jackals started to make these unusual cries. So far, so good; but now for the other side of the picture. I have known jackals start this form of howling in the middle of the day and in the immediate neighborhood of forest rest-houses, where I have been absolutely certain that there was no tiger or leopard anywhere near. Again, I have a Labrador, who is very fond of chasing jackals. One day, in an extremely open dry river bed, she started, after her usual fashion, to pursue a pair of jackals; but, contrary to expectation, the jackals did not run away. They stopped almost at once, whereupon the dog called a halt also, and then one of the jackals sat up on its haunches and started the familiar "pheau." We were sitting on our horses only a short distance away, and there were no "pheau" cries until we appeared on the scene. The country was quite open and I am certain that no tiger or leopard was anywhere near. The jackals were watching the dog intently and the cry must therefore have been one of alarm, although it seems curious that, out of the many

hundred times we have met jackals, when riding with dogs, this is the only occasion that our appearance on the scene has caused jackals to make this cry.

In my opinion, there is no doubt that the "pheau" is a cry of alarm, which may, or may not, indicate the presence of a big carnivore; but, undoubtedly, it is a far less reliable sign than, say, the harsh alarm-cry of the langoor.

Frankly I dislike jackals. They are a great nuisance to me in my flashlight-photography, and their hunched, slouching trot always seems to me to be the very picture of ugliness in motion. Jackals are very liable to attacks of hydrophobia, and, although they may be useful scavengers and poor substitutes for the fox-hunter's fox, most people could well do without them altogether.

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I do not think that any wolves occur inside the denser forests, these animals—which kill a good many children in Oudh—being confined, in the United Provinces, to more open and cultivated country. I have thus nothing to say about them in this book.

. . . . .

The Indian Wild Dog (*Cyon dukhunensis*) is an animal which has interested sportsmen in India for many years, and about which much has been written in various sporting books. It is notoriously destructive to game: so much so, indeed, that there is a large Government reward, which has varied up to as much as Rs 50, on its head, and this reward has resulted in its partial extermination in many parts of India. It is rare in the forests of the Garhwal Bhabar and I have seen one only during the last

A jackal eating a leopard's kill

five years, so that, much as I would like to do so, I am unable to include a picture in this book, or to say much concerning an animal of which I have so little personal experience. It may be remarked that the term "wild dog," as applied to this species, is clearly a misnomer, in that the genus Cyon differs very largely from Canis, and domestic dogs agree with the latter and not with the former genus.

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The Indian Fox (*Vulpes bengalensis*), like the wolf and mongoose, does not normally occur within dense forests, and thus does not come within the scope of this book.

. . . . .

The Indian Marten (*Mustela flavigula*), or Chitraula, is, however, common in the foot-hill forests, in which it does damage to small animals and game-birds comparable only to that done by the jungle-cats. It sometimes gets into poultry-runs, in hill-stations like Lansdowne, where, on one occasion, a single marten has been known to kill every fowl in the whole run, to a number of thirty or more. It is thus obvious that this handsome creatures is not beloved by poultry-keepers in the Himalayas! Martens are frequently seen in the daytime, generally in pairs, but sometimes in family parties of five or six, and show little fear of man. Common though it is, I have not had any opportunities of taking photographs of this species, largely because my work does not give me very much spare time, and it would take many, many years successfully to portray photographically all the interesting creatures that one so frequently sees in the jungles.

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The Indian Ratel (*Mellivora indica*) is a remarkable animal, which is, I believe, much commoner than is generally supposed, even though many sportsmen have never seen a single specimen. I have twice seen solitary examples, one in Oudh, and the other in the Garhwal Bhabar, just as they were starting out at sunset, on their nocturnal prowls, and I regret to say that I shot both animals. It is extraordinary how the primary instinct to kill interesting creatures tends to get the better of one on meeting unusual animals unexpectedly. How I wish now that I had stayed my hand and left these two creatures to live their lives in peace, and, incidentally, to give me an opportunity to study the habits of an animal about which so little is known and whose colouring is so remarkable. This colouring, which is black beneath and grey on the back, is said to be protective in bright moonlight; but many other animals which also move about by night and also need protective colouring are not marked in this way. Indians believe that the ratel eats corpses, and it is called "grave-digger" in various Indian languages. Dunbar-Brander states, in his book, that, in his opinion, this name is well-deserved, and says that he personally has known them to exhume corpses. Indeed, he once gave evidence of this habit of the ratel in a murder-trial, the defense relying on the exposed human remains being those of a corpse which had been exhumed from an adjoining grave. When hunting them with dogs, Dunbar-Brander found that they can climb trees well and that they are very courageous. This latter observation is borne out by my own experience, in that one of those that I shot made a most spirited attack upon my spaniel. The African species of ratel is said frequently to climb trees in search of honey.

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A pair of jackals fearing the arrival of the rightful owner of the kill

Otters are common in all streams of any size in the forests and destroy so many fish that there is a Government reward of Rs 5 on their heads. They have a habit of coming out of the rivers on to some favourite sand-bank, where they roll and frolic about in a most fantastic manner, leaving very characteristic marks on the sand. When disturbed, they usually run up the steep banks of mountain-streams, instead of taking to the water, as one would expect. On one occasion I was attempting to photograph two crocodiles, which were basking in the sun on a spit of sand, when, suddenly, and for no apparent reason, the crocodiles disappeared into the water, to be replaced almost immediately by three otters, one of which had a good-sized mahseer in its mouth. The otters then gambolled about on the sand until, all at once, there came the sound of rushing wings as a pair of ospreys swooped down and attempted to steal the fish, which one of the otters was carrying in its mouth. The otter thereupon took to the water, into which the ospreys, to the accompaniment of loud screams, made repeated plunges in their efforts to secure the prize. They were not successful, however, as the otter always dived just at the critical moment, only to reappear as the ospreys rose again, and it seemed as though he were deliberately playing with the great birds. What a picture an artist could make of such a fascinating scene, and yet my camera failed miserably! This is one of the great drawbacks of natural history photography: one sees so many beautiful and fleeting pictures, which, for one reason or another, can never be satisfactorily portrayed photographically, and which fill one with envy of the artist's facile pen and brush.

. . . . .

Two species of bears occur in the foot-hill forests of the United Provinces—the Himalayan Black Bear (*Ursus torquatus*) and the Sloth Bear (*Melursus ursinus*). Of these the Himalayan bear is merely a stray, its natural home being higher in the hills, whereas the common bear of the plains and the foot-hills is the sloth bear —a large, ungainly creature, and by far the most dangerous animal in the forest to the ordinary unarmed workman or traveller.

The habits of bears have been most accurately summarised by that excellent observer, "Hawkeye" in the following words: "Bears—rum customers and dangerous; but amusing and interesting from their queer ways and eccentric habits." They are extremely good botanists and travel great distances in order to come to any particular forest in which some favourite fruit is due to ripen. They are specially fond of the fruits of *ber* (*Zizyphus Jujuba*) and one or more bears may be found in any patch of ripe *ber* forest. *Ber* is a small thorny tree, and the bears clamber over these trees in search of the luscious fruit, even constructing rude platforms among the branches, on which, apparently, they rest when replete. If disturbed, they usually descend from the tree and rush about in the undergrowth in a particularly inane sort of way. They carry their babies perched on their backs, like miniature jockeys, when rushing about in this fashion, presumably because they would otherwise soon lose touch with them in the dense undergrowth. Sloth bears are largely nocturnal, but may often be seen in the early morning and evening during the cold weather. They do not hibernate, like the Himalayan bears, but use caves, especially in the hot weather and mainly in an effort to escape from the extreme heat. They sometimes sleep in the open under trees and banks, and, on one occasion, I was attracted to the shady bank of a nallah by the sound of extremely noisy

(*a*)

(*b*)

(*a*) Jackals are often the first visitors to a kill
(*b*) A jackal enjoying a sun-bath

snoring, which I heard from a considerable distance. I thought, at first, that it must be some drunkard, who had lost his way in the jungle and who was attempting to sleep off, in that cool spot, the effects of his debauch. I was thus very surprised when my arrival resulted in two bears suddenly appearing, almost from under my feet. I was accompanied at the time by a keen sportsman, so that, needless to say, those violent snores cost those two bears their lives. Perhaps this may be a lesson to those bipeds who plague their friends by unrestricted snoring!

I have several times tried to photograph bears, by daylight, from the back of a tame elephant; but I have always found that they move too fast, or that the light is too poor, so that I have had no luck so far, although I give a picture on plate xiii, which was taken by flashlight at a time when I was trying to photograph a leopard. A black object like a bear is, however, an extremely difficult subject to photograph by artificial light, and the picture leaves much to be desired, although it shows well the peculiar action of a sloth bear when moving from one place to another.

As I have already stated, bears are the most dangerous animals in the jungle to an unarmed man. This is because their eyesight and hearing are so poor that they frequently do not realise that an intruder is anywhere near until he is almost on top of them, and then they often lose their heads and charge, more from surprise than innate viciousness, thereby inflicting the most terrible facial wounds, which may be almost worse than death itself. Tigers or leopards very rarely do this, since, their senses being extremely alert, they generally get out of the way in time, and thus, luckily for human beings, avoid meeting them at close quarters. During recent years, in parts of Oudh, chance meetings with bears have caused so many accidents to Forest Guards and

jungle workmen that Government has had to take special measures, by placing a large reward on their heads, to reduce the number of bears. A bear is little to be feared by a well-armed shikari, since it is easily turned by a shot in the face; but a well-known member of the Indian Civil Service lost his life a few years ago, in the forests of this Division, as a result of a sudden meeting with an animal of whose brethren he must have shot scores during his long and successful sporting career.

(*a*)

(*b*)

The Indian Palm-Squirrel

(*a*) "Clinging silently to the trunk of a tree"
(*b*) "The moment of hesitation before descending again to the ground"

Chapter 10

RODENTS

"Ventures forth
To frisk awhile, and bask in the warm sun,
The squirrel, flippant, pert, and full of play.
He sees me, and at once, swift as a bird,
Ascends the neighbouring beech; there whisks his brush,
And perks his ears, and stamps and scolds aloud,
With all the prettiness of feigned alarm,
And anger insignificantly fierce."

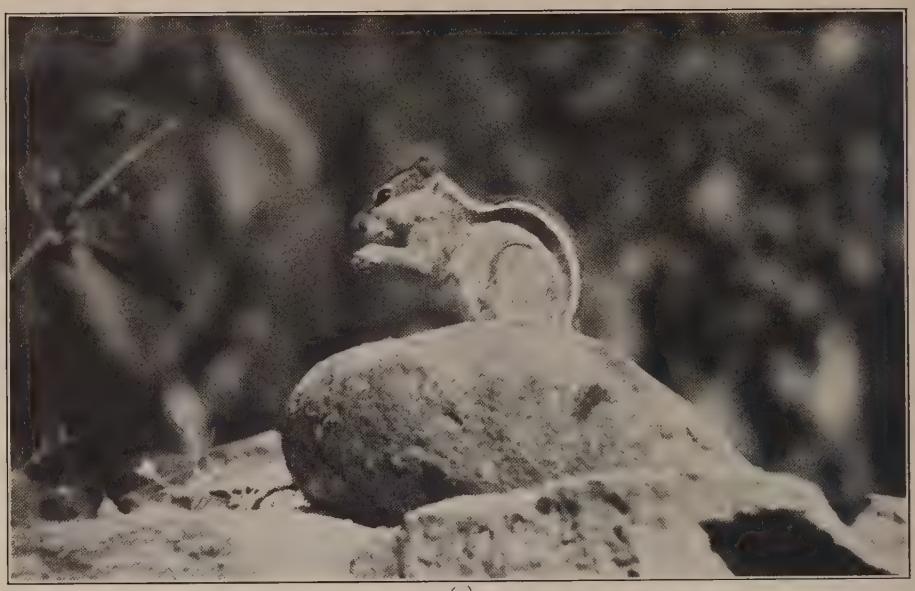
WILLIAM COWPER.

THE large orders Insectivora, comprising, among others, shrews, hedgehogs and moles, and Chiroptera (the bats), are a special study in themselves and will not be touched upon here.

Among the very large order of Rodentia, I propose to deal only with squirrels and porcupines in this book. There is but one species of squirrel occurring commonly in the forests of the United Provinces and this is the Common Striped or Palm Squirrel (*Sciurus palmarum*), which is one of the commonest and best-known animals in India, familiar to everyone owing to its diurnal habits and lack of fear of mankind. Indeed, it is found only in those parts of the forests which border on human habitations and it appears like the rat and sparrow, to be a follower of the human race. I cannot remember ever

having seen one of these animals more than a mile or so away from human dwellings, whereas the species is conspicuous by its absence in more distant forests. These squirrels are often to be seen feeding on the ground beneath roadside trees, in which they take refuge when alarmed, and the picture on plate xlvi shows a squirrel clinging silently to the trunk of a tree up which it had bolted on my arrival. If all danger appears to have passed, the animal will descend to the ground again and he will nearly always hesitate to look round just at the last moment before leaving his arboreal refuge. If one sits very quietly at the base of an isolated tree, up which a squirrel has bolted, and if one has sufficient patience, he will ultimately come down the tree again to give one the opportunity to make an exposure at this moment of hesitation, just as he is looking round to make certain that a descent to the ground can be made in safety. The second picture on plate xlvi shows this action, with the head raised as he was making up his mind that he could return to the ground without undue risk. When once on the ground, these squirrels often sit up on their haunches, like English squirrels, and raise tit-bits to their mouths with their fore-paws. Various characteristic attitudes are shown on plates xlvii and xlviii, these photographs having been obtained by focussing the camera beforehand and then working the shutter by means of a long string from a distance.

The food of squirrels consists mainly of seeds, fruits, buds, etc., and probably insects. They are not over-fastidious in their meals and I have often watched them raking over horse-droppings in order to pick out the particles of grain, which have passed through the body of the horse without



(*a*)

(*b*)

The Indian Palm-Squirrel
(*a*) Lifting food to his mouth with his paws
(*b*) Suspicion

being digested. Somehow or other there seems something incongruous in the sight of this beautiful little animal obtaining its food by raking in muck-heaps, and, considering its doubtful habits, it is remarkable that it manages to keep so spotlessly clean as it appears to do, as the result of constant lickings and cleanings, performed after the manner of a domestic cat. The cry of this squirrel is a sharp "Chirrup, chirrup" somewhat resembling the note of a bird, and the tail is jerked every time it is made. When frightened or violently agitated, this chirruping is repeated very loudly and persistently, and is sometimes of use in locating a leopard.

Most forest rest-houses in the jungle have a few of these cheery squirrels living in the thatch. They may often be seen running along the rafters and quite frequently enter rooms in the hope of a little loot. Unfortunately they sometimes do a good deal of damage to young plantations of forest trees, by biting off the young seedlings, and for this reason, keen silviculturists often regard them with bitter enmity, although they can never compete in destructiveness with porcupines or wild pigs. These squirrels are very small and active and are often to be seen clambering all over quite small plants, such as the Indian "bhang" (hemp), in search of the ripening seeds. They take up most attractive poses when occupied in this way and it seems marvellous that such fragile plants can bear even their small weight. I have seen as many as four or five squirrels on a single plant, and the general effect is very similar to that of a party of goldfinches extracting the seeds from a large thistle on a roadside in England.

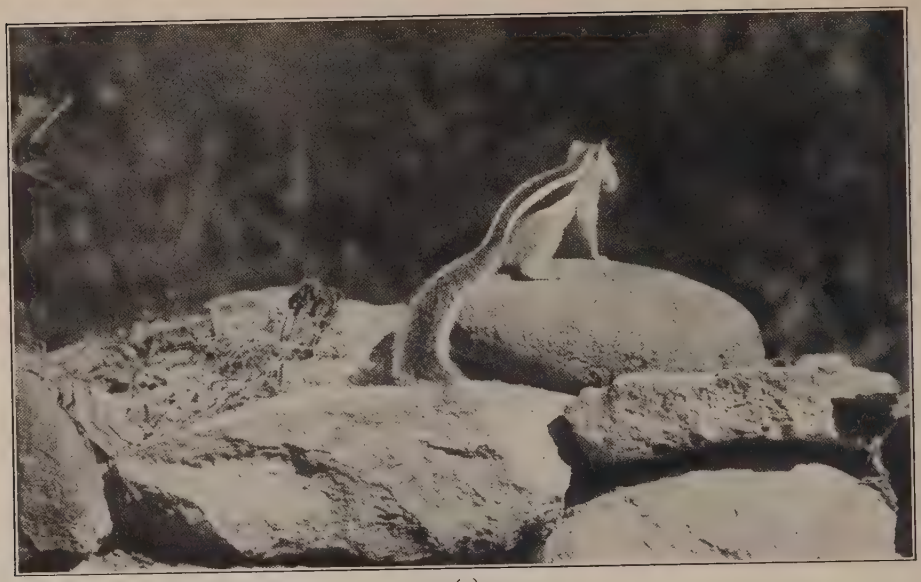
It is interesting to note that there is a tradition in Southern India to the effect that the stripes on this squirrel were made by

Krishna's fingers when he stroked one of these beautiful little animals.

The splendid *Sciurus indicus,* which, according to Blanford, sometimes weighs up to five pounds, does not occur in the United Provinces and I regret that I have no experience of the species. It is somewhat like a glorified edition of the English squirrel, although, according to all accounts, a much finer looking animal. The interesting flying-squirrels of the genera Pteromys and Sciuropterus are also not found in these regions, but are confined to Southern India, Burma, and the high Himalayan mountains.

. . . . .

The Indian Porcupine (*Hystrix leucura*) is one of the very commonest of animals in India, although it is rarely seen. This huge rodent, which, according to Dunbar-Brander, weighs up to forty pounds or more, occurs throughout the whole of India and Ceylon and is so destructive to forest trees and plantations that, inside Reserved Forest, there is a Government reward on its head. Many are killed annually, but they are so widespread and prolific that nothing short of an intensive campaign would make any difference to the enormous numbers of these destructive beasts, which at present infest India from end to end. In many places the inroads of these brutes make vegetable-gardening such a heart-breaking pursuit that few are prepared to nurse English vegetables through the vagaries of an Indian climate only to have them provide a delectable meal for a porcupine, just as they are getting ready for the table. In the hill-station of Lansdowne, in Garhwal, this is markedly the case, and it is very difficult to know how to deal with the irregular nocturnal



(*a*)

(*b*)

The Indian Palm-Squirrel

(*a*) Looking to see that all is well
(*b*) Enjoying a meal

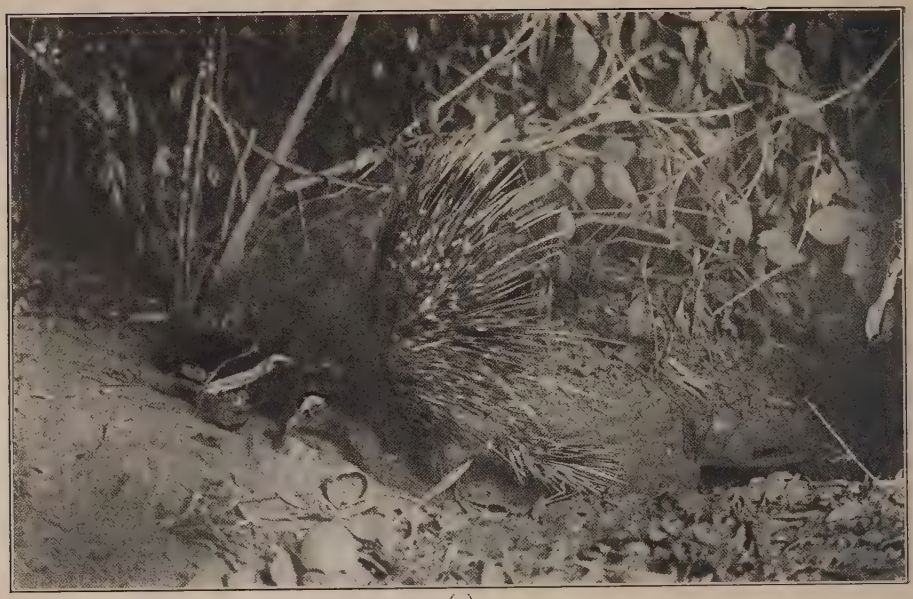
raids, which reduce to nought all one's efforts to grow vegetables on the top of an infertile hill. There are not many porcupines and they come at such irregular intervals that it is a hopeless task to sit up for them with a gun at night. Traps, spring-guns, and poison are all too risky in a cantonment where there are many dogs, and all efforts to find their breeding-places have so far failed. Wire-netting is sometimes effective, but it is very expensive, so that a satisfactory method of dealings with these pests in such populated areas has yet to be evolved.

Porcupines are generally reputed to be almost entirely nocturnal in their habits; but this is very far from being the case in those forests in which there is a good deal of grass in the undergrowth. Many and many a time have I seen them moving about in long grass, at all hours of the day, even in the hot weather. They also sometimes bask in the sun at the mouths of their holes, and on one occasion I found one actually asleep in such a position at about 10 a.m. I brought the elephant right up to this beast, without disturbing him, and made an exposure with the reflex camera at about 3 yards' range before he awoke from his nap, to receive the fright of his life, as he found me leaning right over the side of the elephant standing beside him. Unfortunately the negative was blurred, owing to the strained position in which I made the exposure, partly as the result of my foolish endeavour to get too close and partly because the mahawat did not do his best to help—his mind being more on the Rs 2 Government reward than on the production of a picture.

On moonlight nights, porcupines can often be seen moving about in the jungle, and the rapidity of their movements is astounding. I would estimate their average pace, when travelling

from place to place at night, to be about 10 miles per hour, and I once saw a whole party of about a dozen individuals, including several of the weird-looking youngsters, going through the jungle as though they were trying to catch a train. Their main enemies are leopards, but these felines are scarcely numerous enough to account for such perpetual hurry. Perhaps they are extremely greedy and, after having remained quiescent in their holes most of the day, are anxious to find food directly the shades of night spread over the jungle. Certainly, porcupines, by habit, move about faster than any other animal in the jungle and it would be interesting to know the reason for this seemingly unnecessary haste.

The porcupine has long been my photographic *bête-noir,* and, although two photographs are given on plate xlix, I have yet to produce a really satisfactory picture. Their earths are numerous in the jungles in my charge and one would think it the simplest thing in the world to take photographs by automatic flashlight as they emerge at dusk for their nocturnal wanderings. Yet I have tried for pictures times without number and nearly always with little success. Sometimes the porcupine does not come out at all; sometimes he emerges by another and hidden exit which I have overlooked; sometimes he has been out all day, and, when I have arranged my apparatus for his emergence, he enters from outside, thereby spoiling the picture; and lastly, when he does come out just as I want him, he comes so fast that even 1-200th of a second fails to stop his movement. It is thus obvious that porcupines frequently emerge from their homes like a "Jack-in-the-box" and it has been suggested that the reason for this is that leopards often lie in wait for them at the exits of their earths and the porcupines hope



(*a*)

(*b*)

The Indian Porcupine
(*a*) "Emerging from his hole like a 'jack-in-the-box' "
(*b*) Going along a jungle-path by night

to escape death by means of this sudden rush, which enables them to reach the safety of long grass before the waiting leopard is aware of their arrival. Also, they have a very strong sense of smell and the act of putting up the flashlight camera outside their earths, when they themselves are at home only a foot or two below the surface, probably tends to make them suspicious and more liable to make their exits as rapidly as possible.

If a porcupine is met during the daytime and irritated or frightened, he will erect his spines and make a peculiar rattling-sound, apparently by means of the hollow tail-quills. If attacked by dogs, he will charge backwards, sometimes inflicting most dangerous injuries. Many quills are dropped about the jungle and tend to cause bad festering wounds. Cases have been recorded of tigers and leopards becoming man-eaters as a result of injuries caused by porcupine-quills, either picked up accidentally or driven in when the carnivore is making a meal of one of these succulent rodents. Dunbar-Brander, in his *Wild Animals of Central India,* makes the following remarks:—

"The relations between leopards and porcupines vary, as, although I have known leopards to kill and eat porcupines, I have also known them occupy the same earth, apparently on terms of mutual trust. Porcupines are the great excavators of the jungle and their disappearance would affect the lives of a number of other creatures. It is possible, therefore, that the leopard occupies the porcupine's earth on some mutual understanding, undoubtedly backed in the early stage of the *pour-parler* by the latter being able to prevent entrance by the display of an unassailable row of bayonets." Personally I have

no experience of such an understanding between porcupines and leopards, and, as I have never known a leopard to live inside a porcupine-hole in these forests, I do not think it often occurs. Indeed, I believe that fear of leopards is the chief reason which explains the perpetual hurry to which porcupines seem addicted.

Chapter 11

ELEPHANTS

"I will remember what I was, I am sick of rope and chain—
I will remember my old strength and all my forest-affairs.
I will not sell my back to man for a bundle of sugar-cane.
I will go out to my own kind, and the wood-folk in their lairs.

"I will go out until the day, until the morning break,
Out to the winds' untainted kiss, and the waters' clean caress.
I will forget my ankle-ring and snap my picket-stake.
I will revisit my lost loves, and playmates masterless!"

KIPLING.

OF all animals found in India, if not the whole world, probably the most interesting to the average individual is the elephant, which has captivated the imagination of mankind from time immemorial and which will, in all probability, continue to do so as long as there are any elephants left among the rapidly diminishing fauna of this world. Even in India, where tame elephants are a common sight, the appearance of one of these mighty beasts in a village is always greeted with screams of delight by the children, while the older folk often cannot refrain from congregating in order to watch this giant among beasts, even though they must have seen and watched tame elephants hundreds of times before. It is the same with those Europeans who constantly use elephants in the course of their work. The elephants' evening meal is a never-failing

source of interest; and every time one's eyes rest on an elephant one cannot help admiring his magnificent bulk and appearance, and, at the same time, wondering what thoughts lie behind those eyes, which may have gazed upon the world for a hundred years or more —long, long before the elephant's master ever saw the light of day. No Indian marriage of importance is ever complete without gaily-decorated elephants, whereas nearly every Indian potentate, following the lead of a long line of ancestors, maintains a stud of these magnificent—if somewhat expensive—beasts as essential to the dignity of his position.

There is a very large amount of literature concerning elephants, both Indian and African, but a great deal of what has been written, during the last thirty years or so, on the subject of Indian elephants, has been copied from Sanderson's excellent work, *Thirteen Years Among the Wild Beasts of India,* which refers more particularly to the elephants of Southern India. Among the more modern works, *Elephants and Their Diseases* by Lt.-Col. G. H. Evans contains a great deal of very interesting and instructive matter, although it deals more particularly with elephants in captivity. The *Journal* of the Bombay Natural History Society has also contained many interesting notes and observations from time to time. As regards African elephants, the various publications of that famous hunter, F. C. Selous, are always very readable and full of first-hand observations, while Marius Maxwell's *Stalking Big Game with a Camera in Equatorial Africa,* with its superb photographs, is a book, which, if it is ever equalled, will certainly never be surpassed.

Before describing my own experiences, it is of interest to summarise what has already been written on the subject of Indian elephants. It is generally agreed that twice the circumference

of the fore-foot gives the vertical height at the shoulder almost exactly to an inch. Sanderson states in his book that he never saw an elephant 10 feet high, but there have been numerous records of larger elephants since then. Major Evans records an elephant shot in Burma, with feet measuring 5 feet 4 inches in circumference, which gives a height of 10 feet 8 inches, and numerous other elephants over 10 feet in height have been recorded in the Bombay History Society's *Journal, The Indian Field Shikar Book,* and Rowland Ward's *Records of Big Game.* In the submontane jungles of the United Provinces concerning which this book is written, I have personally never seen an elephant which I should estimate at more than 9 feet 6 inches high, but two rogue elephants have actually been shot which measured over 10 feet. One of these was shot in Ramnagar Division in 1914, and measured 10 feet 4 inches, and the other, also measuring 10 feet 4 inches, was shot at about the same time in Haldwani Division. Details of the measurements of these elephants were recorded in the current numbers of the *Indian Forester* at the time. It would therefore seem that the maximum height of Indian elephants is nearer 11 feet than 10 feet, as estimated by Sanderson. African elephants run considerably bigger and specimens up to 12 feet have, I believe, been recorded.

It is never likely to be known to what age wild elephants live, although it is more than probable that the life span of a wild elephant is considerably in excess of that of his brethren in captivity. In the wild state an elephant has nothing to do beyond eat, drink, sleep and propagate its species, whereas in captivity it is often overworked, underfed, and, worst of all, exposed to the hot mid-day sun in a way which no wild elephant would tolerate for a moment. Even in captivity, records prove that

elephants have been known to live for well over a century. An example, quoted by Evans, is given in Beeton's *Dictionary of Natural History,* in which a decoy elephant is known to have been in the Dutch stables, at Matura in Ceylon, for 145 years, and was said to have been in the Portuguese stables previously. If elephants can live as long as this in captivity, it seems a fairly safe conclusion that the normal term of life in wild elephants is well over 100 years and possibly considerably more.

To quote Evans: "The most ready method of forming an approximate idea of the age of elephants is by the amount of turn-over of the upper edges of the ear. In young animals, sometimes up to 8 or 9 years of age, the ear is quite straight; it, however, then begins to turn over and, by the time an animal is 30, the edges have turned over to the extent of 1 inch. This turn-over increases to a little over 2 inches by the time the animal has reached 60." Other authors state that the turn-over of the ear does not start in some cases before the animal is about 15, and it is difficult to believe that the elephant figured on plate 1 is only 8 or 9 years of age considering that this elephant was a good 7 feet high and yet showed no sign whatever of any turn-over to the ear. An old elephant has a very pronounced turn-over to his ears, the low fringes of which are almost always ragged and torn. Other signs of age are the sunken eyes, and, if a tusker, the yellow and worn tusks, whereas a very old elephant loses all its hair and the skin becomes pale and dull.

The powers of eyesight and hearing of elephants are fair only, but their sense of smell is remarkable. A tame elephant will nearly always give ample warning of the presence of her

A young elephant with no turn on the upper rim of the ear

wild cousins anywhere in the vicinity by lifting up her trunk—they are generally females—and sniffing the air in the direction in which the wild elephants are located, or by hitting the ground with her trunk. The former action is shown in the picture on plate ii, which represents a large wild makna taking my wind and that of my mount before bolting. Sanderson states that elephants have a very strong sense of smell and that tame elephants can scent wild ones up to 3 miles distant with a favourable wind. It is doubtful if there is any other animal in the Indian jungles with powers of scent even approaching this, so that it is obvious that the photographer must always be careful to approach up-wind, if he wishes to be successful in making pictures of wild elephants.

There are, at the present day, only two species of elephants living in the world—the Indian and the African. Dwarf elephants some 6 or 7 feet high have been found occasionally and it has been suggested that these belong to a separate species, but this theory is not accepted by zoologists. The differences between Indian and African elephants are very marked and fully justify their division into separate species. The African elephant is, as a rule, much larger, with enormously developed ears overlapping the withers, and the back is concave, whereas that of the Indian elephant is convex. The forehead recedes and is practically a smooth curve, whereas, in the Indian elephant, there is a marked depression in the centre between the two temples. This depression is very obvious in some of the photographs illustrating this book. The trunk of the African elephant is much more coarsely ringed and the tusks are far larger, some almost reaching the enormous size of fossil elephant tusks. The females, also, of African elephants have large tusks, whereas those of

Indian elephants have small tusks only, as is also the case with one variety of the males—the maknas or tuskless male (see illustrations on plates ii and iv). The lamination of the molar teeth is very distinct in the two species, the African being in acute lozenges, and the Indian in wavy undulations. Another point of divergence is that the African elephant has only 3 nails in the hind feet, whereas the Asiatic has 4. In *Wild Sports in Burma and Assam,* by Polloch and Thom, the theory is advanced that maknas are a distinct variety, if not species, of elephant. This idea is based on the fact that nearly all male elephants in Ceylon and Sumatra are maknas; but maknas also occur in small numbers among the herds of wild elephants in India and Burma. The members of a herd are often more or less related to each other, so that it follows that maknas and tuskers must sometimes have the same parentage, which renders the idea of their being separate species quite untenable. Maknas are often exceptionally large muscular elephants and it has been suggested that the reason for this is that they are able to take nourishment from their mothers longer than tuskers, as the growing tusks of the latter tend to hurt the mother when suckling.

Bull Indian elephants, both tame and wild, are liable to periodical functional derangements, generally known as musth (literally, madness); but, curiously enough, I have been unable to find any mention whatever of this derangement in the copious literature on African elephants. It is possible that this is partly due to lack of experience among African elephants in captivity; but the absence of all mention of it is remarkable. Europeans in India frequently speak of musth elephants and mad elephants as though the two terms were synonymous,

but this is by no means the case. When an elephant becomes mad, the derangement is cerebral and permanent, and such an elephant, whether wild or tame, becomes an appallingly dangerous brute, which should be destroyed at the first possible opportunity. Such madness is generally due to the bite of a mad dog or jackal, but may occasionally, in captivity, be due to sunstroke following upon excessive exposure to the hot sun.

Musth is quite a different matter and is a temporary functional derangement, probably analogous to the rut in deer, which occurs periodically among bull elephants, tame and wild. The following is a description of this state taken from *Elephants and Their Diseases,* by Lt.-Col. G. H. Evans.

"Musth, or congestion of the temporal glands. Male elephants, and very rarely females, on attaining maturity, are subject to peculiar periodical paroxysms of excitement which seem to have some connection with the sexual functions, and to which the name musth is applied by Indians. It is probably analogous to the rut in deer and occurs most frequently in the cold season. It may perhaps be due to ungratified sexual desire in some cases, but not always so, since the society of a female by no means always quells or even pacifies animals in musth! At other times an animal in musth undoubtedly seeks a mate of the opposite sex. The temples at first become puffy, due to the swelling of the temporal glands, which lie beneath the skin, and later an oily discharge exudes from the holes or ducts over the glands. The attack may last a few days, weeks or months. The temporal glands of elephants are two in number and are situated one on each side about midway between the eye and the

ear hole. They are similar to the glands in deer which open into pits seen under the eyes." Illustrations on plates lvi and lvii show a wild bull elephant with the discharge from these glands, and it is to be noted that this discharge has an offensive smell which is apparent at a considerable distance. Elephants become extremely dangerous when in musth: tame elephants have to be chained up and put out of work altogether, whereas to approach a musth wild elephant is simply to ask for trouble. The incidents connected with the two pictures of a musth wild elephant illustrating this book are described in the following chapter, but they nearly brought my photographic career to an end, and I do not propose to try to obtain any more. *Sport and Adventure in the Indian Jungle*, by Mervyn Smith, although not a particularly scientific work, relates some very interesting and readable stories of mad and musth elephants.

There is an extraordinary diversity of opinion as to the intelligence of elephants and it is interesting to compare the opinions of some of the leading authorities on the subject. Sanderson—probably the greatest authority on elephants that ever lived—says, in his *Thirteen Years among the Wild Beasts of India,* "The intelligence of elephants has been greatly over-rated. What an improbable story is that of the elephant and the tailor, wherein the animal, on being pricked with a needle instead of being fed with sweetmeats as usual, is represented as having gone to a pond, filled his trunk with dirty water, and, on returning, squirted it over the tailor and his work. This story credits the elephant with appreciating the fact that throwing dirty water over his work would be the peculiar manner in which to annoy a tailor. How has he acquired the knowledge of the incongruity

An old elephant with decayed tusks

of the two things—dirty water and clean linen? He delights in water himself and would therefore be unlikely to imagine it objectionable to another. If the elephant were possessed of the amount of discernment with which he is credited, is it reasonable to suppose that he would continue to labour for man instead of turning into the nearest jungle? The elephant displays less intelligence in its natural state than most wild animals. Whole herds are driven into ill-concealed enclosures, which no other forest creature could be got to enter; and single ones are caught by being bound to trees by man under cover of a couple of tame elephants, the wild one being ignorant of what is going on until he finds himself secured. Escaped elephants are generally retaken without trouble; even experience does not bring them wisdom. Though possessed of a proboscis which is capable of guarding it against such dangers, the wild elephant readily falls into pits dug in its path, whilst its fellows flee in terror, making no effort to assist the fallen one, as they might easily do by knocking in the earth around the pit. It commonly happens that a young elephant falls into a pit, in which case the mother will remain until the hunters come, without doing anything to assist its off-spring—not even feeding it by throwing in a few branches."

The opposite opinion is voiced by Theodore Roosevelt, in his *African Game Trails,* as is obvious from the following quotation: "No other animal, not even the lion himself, is so constant a theme of talk, and a subject of such unflagging interest round the camp fires of African hunters, and in the native villages of the African wilderness, as the elephant. In fact, the elephant has always profoundly impressed the imagination of mankind. It is not only to hunters, but to naturalists and to all people who

possess any curiosity about wild creatures and the wild life of Nature, the most interesting of all animals. Its huge bulk, its singular form, the value of its ivory, its great intelligence—in which it is matched only, if at all, by the highest apes, and possibly by one or two of the highest carnivores—and its varied habits, all combine to give it an interest such as attaches to no other living creature below the rank of man." Equally diverse opinions are to be found among the sportsmen and naturalists in India, and it is difficult to arrive at a satisfactory conclusion on the subject. Indian elephants in captivity are undoubtedly exceedingly docile and quick at understanding their mahawat's orders and signs —up to a certain degree—and in intelligence they are undoubtedly superior to a horse, but at the same time they can in no possible degree compare with the alert brain power of a dog like a fox terrier. Anyone who has experienced that greatest of all pleasures in the much-maligned East—a trip in an Indian jungle on a really well-trained shikar-elephant—cannot fail to marvel at the quickness of the elephant's comprehension of an expert mahawat's orders, conveyed in a whisper, or by signs from his hands and legs, such as "Go quietly," "Lift your feet gently over the barbed wire," "Stand still," etc.; but, and it is a very big "but," why does an elephant allow himself to be hit about by a puny man with an iron ankus; why does he remain in captivity when he could break away with the greatest of ease; why is he so easily trapped; why is he frightened by so insignificant a creature as a dog; and why, oh why! does he permit the extreme indignity of allowing himself to be led about by the ear by a child! On the whole the general mass of evidence seems to favour the opinion that the wild elephant is not a particularly intelligent animal, but that the Indian elephant is very docile

in captivity and is capable of training by hereditary experts to a much higher degree than a horse, but not to the same degree as a dog.

In most places in India and Burma, elephants are protected by Government, under a special Elephant Act, and it is only when an elephant becomes dangerous to human life or property that he is declared a "rogue" and permission is given for him to be shot. Many "rogues" are declared on insufficient evidence, in that the elephant in question may only be in musth temporarily, or may have been annoyed consciously or unconsciously in some way or other. Forest and Civil officers have always to be very careful in this matter of declaring elephants as "rogues," as there are unscrupulous persons in India who are not above working up an agitation against some particular elephant in the hope of getting an opportunity to shoot him. In addition, a genuine "rogue" elephant is very dangerous and few people are willing to go sufficiently close to be able to give the accurate description of the elephant, which is necessary for his proclamation as a "rogue." To the man who has had little experience of elephants, all elephants look much the same, particularly as they nearly always remain more or less concealed in the jungle; and a good many innocent elephants are shot on the plea, genuine or otherwise, of their having been proclaimed as rogues. A real "rogue" is usually an elephant which has become injured in some way or other, often at the hands of poachers, and naturally feels that he has a grudge against mankind, in which feeling he has the hearty sympathy of genuine animal lovers. A beautifully written story of such a "rogue" elephant appeared under the title of "Swe Leing—The Story of an Elephant" in the issue of *Fighting Forces* for September, 1925.

Elephants have been domesticated in India for an extremely long time. According to Sterndale, elephants were used considerably by the Carthaginians in the First Punic War (B.C. 264-261) and, in the Second Punic War, Hannibal took 37 of them across the Alps—although how he managed to feed them on this journey remains a mystery. They were at one time used in the Indian Army for transport work and for dragging guns; but they are not suited to modern conditions, and are now no longer used for military purposes. The Afghans, however, used a few in the 3rd Afghan War of 1919, when I personally saw seven, through field-glasses, on the Afghan front. These were probably State elephants, which were brought out to the front in order to give "morale" to the troops, and their actual usefulness against modern machine guns, aeroplanes, etc., must have been negligible. Elephants are still used in considerable numbers in Burma and Southern India for piling timber and transport, but in most places they are kept nowadays only for show and shooting purposes, by Indian potentates, and by Government for the use of those officials whose work takes them into jungly parts. They cost at least Rs 100 per month to keep, when all incidental expenses, such as pay of mahawats, uniform, trappings, etc., are included and when the daily ration of 600 lbs. of green food comes from Government forests. If this enormous quantity of green food has to be purchased, the cost is more than doubled. It may be remarked that a determined effort is again being made to domesticate African elephants in the Belgian Congo, and an interesting article on the subject appeared in the *Illustrated London News* of June 6, 1925. The attempt started in 1899, by order of King Leopold, who obtained a few domesticated elephants and mahawats from India.

After a number of reverses and interruptions, the station at Api contained, in 1925, 42 African elephants, many of which were well-trained and docile. These trained elephants have been found to be very useful for transport purposes, and the number of training stations is being increased, so that the domestication of the African elephant may now definitely be said to be an established fact.

It is sometimes stated that elephants will not breed in captivity, but this is not the case, and there have been numerous cases of captive elephants giving birth to calves. Several instances of this have been recorded in the *Indian Forester*, of which the following are examples. In 1921 it was recorded that a Forest Department elephant, in Madras, first produced a calf when only 13 years old. She has since had four more calves at the ages of 19, 22, 26 and 30, and there is every hope that she will produce more. In 1924, a record was published of a wild tusker crossing the female elephant "Daisy," of the Deputy Commissioner of the Chattagong Hill Tracks, on 5.1.22. She gave birth to twin calves—a male and a female—on 5.11.23, so that the period of gestation was 22 months.

It has long been a mystery as to what happens to elephants when they die, and many fanciful tales have been written, based on the supposition that elephants all go to some hidden place to die when they feel death coming upon them. Indeed, one or two expeditions have, I believe, been made in Africa, purely with the object of searching for such treasure troves of hidden ivory. The point has never been solved, and it is certainly remarkable that so few traces are ever found of wild elephants which have died a natural death. In this connection it is

interesting to note that there are four records of elephants having been found dead, within recent years, in the sub-montane forests of the United Provinces, with which this book deals.

The first of these was found in 1921 by my brother, Mr. H. G. Champion, I.F.S., at Harai, in Haldwani Division. It was a tusker, with biggish tusks, and was found on a fire-line, when it was thought to have been dead for two days. The distance from water was about half-a-mile, and the cause of death was uncertain, there being no sign of external injury. Some arsenic had been used in the neighbourhood for killing [1]*rohini* trees, but, as elephants do not eat either the leaves or bark of *rohini,* it seemed unlikely that this was the cause of death.

The second case also occurred in Haldwani Division, at Goria Rau, in the same year. It was a small female and was found some three or four days after death. It was said to show a number of wounds on the throat and neck, and may possibly have been killed by a tiger.

The third case is recorded by Mr. E. A. Smythies, I.F.S., and once again was in Haldwani Division—which appears to be a very fatal place for elephants. He was a fine solitary tusker, with 6 foot tusks, and was found in November, 1925, by a marking gang. He had apparently died about the beginning of October, in a patch of what would have been swampy ground—but not quicksand—at that time of the year. His legs were embedded in the ground 2½ feet to 3 feet deep, and he was half-squatting, half-lying, on his left side. It did not appear that he had been caught in a quicksand—elephants are very clever in avoiding such

[1] *Mallotus philippinensis.*

A wild elephant which died a natural death

danger spots—as there was a solid bank, with trees, shrubs, etc., about 2 yards in front of him, and he did not appear to be so deeply embedded that he could not have struggled out somehow. It is possible that he may have been sick at the time and thus lacked the strength to struggle out, or he may have been bitten by a hamadryad.

None of these elephants, however, was a particularly old beast, so that the finding of their carcases does nothing to help towards a solution of what happens to old elephants when their time comes to depart from this world. The same applies to the two dead elephants recorded by Lt.-Col. Faunthrope in his "The Most Dangerous Sport," published in the *Pioneer,* in 1926. Towards the end of 1926, however, a dead elephant was found in Lansdowne Division, and this example appears to be a genuine case of a wild elephant dying of old age. A photograph of the carcase is given on plate lii and the case is sufficiently interesting and remarkable to justify my giving a full description of it here.

At the beginning of November, 1926, I received a report from one of my Range Officers to the effect that, on 28.10.26, a female wild elephant had died in the Zemindari Forests of the Bijnor district, and that he had gone to inspect it on 30.10.26. I instructed him to see that the carcase remained as intact as possible, so that I could come to examine it as soon as opportunity offered. This occurred on 5.11.26, so that I saw the carcase exactly a week after death. It was lying on its side, in open grass forest containing a few scattered trees, and was only about 400 yards from the huts of some graziers, who had brought in the news of its death. Decomposition had already set in and the meat had been attacked by vultures, pigs and hyænas, but, owing to the very

thick skin, they had not been able to make much headway. I had one shady *ber* (*Zizyphus Jujuba*) tree removed and then took the accompanying photograph of it exactly as it was lying. It was a large female in a very emaciated condition, and the general appearance suggested advanced age. There was no hair on the skin, which was very light in colour, and the upper rims of the ears were very markedly turned over, although the lower fringes were not frayed. At the time of death there had not been any diarrhœa, which generally occurs with cattle-disease, and there was no blood or any sign of an external wound. The graziers who found the carcase said that they had known this elephant for the last year and that she was so old and weak that she could not run away with the other wild elephants, when driven from the crops of the neighbouring villagers. To prove their statement, they pointed out the droppings, which contained whole leaves and pieces of grass, quite undigested, this being one of the main signs of old age and failing teeth. I then had the jaws cut open with an axe and found that, in the upper jaw, only one molar remained, the grinding surface of which was worn right down perfectly smooth, whereas the molars in the lower jaw were mere stumps. Under these circumstances it is remarkable that the beast could have managed to remain alive as long as she did, and, to my mind, this appears to be a clear case of a wild elephant dying of old age, in open forest, which it had frequented for a year or more before death. It is to be noted that, unless death overtook her suddenly, which seems unlikely under the circumstances, no attempt was made to seek seclusion in the very dense and mountainous Reserved Forests which border on the site of death.

A remarkable feature of this case is that the Ranger saw the carcase on 30.10.26 and noted its position carefully, but, when he came with me on 5.11.26, we found that it had been moved to a different position. A dead elephant weighs something in tons, and the spot is practically uninhabited, except for a few graziers, so that I am certain that the carcase was not moved either by man or by scavenging animals, such as pigs or hyænas. The graziers state that one or two other wild elephants visited the place while the carcase was lying there and it appears that they almost certainly tried to move her away or lift her up. Wild elephants are very long-lived animals, so perhaps they do not understand what death is and thus attempted to help one of their fellows in distress.

I would suggest that the tradition of wild elephants collecting in some secret place to die has little foundation in fact, and that the hidden treasure troves of ivory exist only in imagination. Elephants live in very sparsely-populated districts in tropical forests and their life-span is very long. Deaths are therefore not common and may occur anywhere within immense tracts of forest. In tropical countries, carcases are attacked by innumerable scavenging creatures, such as vultures, crows, hyænas, jackals, pigs and porcupines, whereas their work is soon supplemented by that of ants, termites and fungi. Following upon these agents comes the annual monsoon, which produces grass and other rank vegetative growth, twenty or more feet high, in a few months, so that a single season may easily remove the entire body and much of the skeleton of an animal even as large as an elephant. The tusks may easily be covered with vegetation and they are certainly largely gnawed by porcupines; they must also be old, worn and broken by the time an elephant dies of old

age, so that they might easily disappear after a few years' exposure to a tropical climate and its attendant decomposing influences. However, records of wild elephants which have died of old age are extremely scanty and one is not justified in arguing from a particular case.

With regard to the visit of other elephants to the carcase of the dead wild elephant, mentioned above, it may be remarked that there is a common superstition current in India to the effect that wild elephants bury their own dead. Those who believe this superstition might thus argue that the other elephants attempted to bury the carcase in this case, but finally abandoned the attempt owing to being disturbed by the graziers living near. In this connection Lockwood Kipling writes, in his *Beast and Man in India*

"It is firmly believed that dead elephants are buried by their kind. Mr. Sanderson admits that he is unable to account for the total absence of their remains in the jungle, and so gives us leave to share, for once, in an Orient mystery, dim and inscrutable. The free-thinking native who solves it by boldly claiming that the great beasts, left to themselves, do not die at all, does not diminish the marvel, which still remains to delight all those who love to wonder."

Chapter 12

PHOTOGRAPHING WILD ELEPHANTS

"Trampling his path through wood and brake,
And canes which crackling fall before his way,
And tassel-grass, whose silvery feathers play
O'ertopping the young trees,
On comes the elephant, to slake
His thirst at noon in yon pellucid springs.
Lo! from his trunk upturn'd aloft he flings
The grateful shower."

ROBERT SOUTHEY.

ALTHOUGH wild elephants are still common in South India, Ceylon, Burma, and Siam, their numbers are, unfortunately, very limited in submontane forests of the United Provinces, to which my photographic expeditions have been confined. They were, at one time, fairly common in these forests, but their numbers were sadly depleted during the earlier part of the last century, and it was only the protection afforded by the Government "Elephant Preservation Act" which saved them from complete annihilation. They now number only from 100 to 150 individuals, divided up into several small herds, with a large number of semi-solitary bulls and maknas; and the photographs reproduced in this book consist mostly of these latter, which wander about singly, or in parties of two or

three. Solitary elephants are usually reputed to be bad-tempered, but, as a general rule, I have not found this to be the case on the numerous occasions on which I have approached them for the purpose of taking photographs. This is remarkable when one considers the way these elephants were harried before they were afforded protection by Government, and the fact that many of them must bear scars of old wounds to this day. In a well-known book on big-game shooting, published some time ago, the writer describes how, in these very forests, he scored 25 hits on 10 elephants, of which 3 were cows, and his total bag was only 1 makna, which naturally did not even provide him with tusks as trophies! Admitted that elephant shooting is not easy, this still remains one of the most dreadful stories of callous shooting that I have ever read. The writer appeared to creep up to an elephant, fire at it with an enormous rifle, wound it, and then make no real effort to follow the poor creature up; but passed on to repeat the performance on some other wretched beast. Nothing whatever would induce me to attempt to destroy one of these magnificent creatures, and, considering the treatment they have received in the past at the hands of that much-vaunted creature, *Homo sapiens,* it is marvellous that they do not bear him a greater grudge than they appear to do. A real "rogue" should, of course, be destroyed—although he often has my sympathy—and in places elephants are so numerous, and do so much damage to crops, that their numbers must be reduced by captures; but even some of India's greatest shikaris have not derived any great pleasure from bagging this—perhaps the finest of God's wild creatures. The extracts quoted below amply bear out this statement. Major-General Nigel Woodyatt, in his *Sporting Memories,* writes:—

"I have never shot an elephant; nor, except going twice after a 'rogue,' have I ever tried to shoot one. The huge monster is such a magnificent beast, such a mountain of growth, so human, and so fascinating in its captivity. The idea of trying to lay low one of its species, for the sake of a pair of problematically-decent tusks, is positively repugnant to me. There is also the question of gratitude. I owe so much to the assistance of the shikar elephant. It has given me hundreds of days of good sport; and though, just like the wild ones, it has given me also moments of anxiety, still I love it."

Again Sanderson, when a young man and a desperately keen shikari, in describing the bagging of his first elephant, writes:—

"After the momentary exultation had passed, I thought regretfully of the noble life, which I had sacrificed in order to afford myself the pleasure of a few hours' mad excitement. The beast to whom Nature had given so noble a life; which had roamed these grand solitudes for probably not less than a hundred years; which may have visited the spot on which it now died half a century before Waterloo was fought; and which, but for me, might have lived for half a century more—lay bleeding and quivering before me, deprived of its harmless existence to gratify the passion for sport of a youth hardly out of his teens. Nor had it had a fair chance. I had not faced it boldly, and killed it in open fight. It had not even seen its enemy, nor had it had a chance of retaliation. Trackers, from whom escape was as impossible as from blood-hounds, had been urged in pursuit; the most powerful weapons which science could place in the hands of a sportsman, against which any other animal of creation would have gone down at once, had been used for its destruction.

Could I congratulate myself greatly on my achievement? The forest around was indescribably grand. No sounds but those of Nature fell on the ear. The trees were of immense proportions, and to their huge stems and branches numbers of ferns and orchids of different kinds clung. Their trunks were moss-grown and weather-beaten. The undergrowth consisted of ferns up to our shoulders. Truly an elephant must have a noble nature, and one may almost believe that he delights in the wild places he inhabits, as much for their beauty as for the safety they afford. He wanders from stream to hill-top, rubs his tough hide against the mighty forest-giants, and lives without fear except of man, his only enemy. What a blood-thirsty creature the self-constituted lord of creation is! Though impressed with the wild beauty of the creations of Nature around him, how his heart jumps at the sound of the game which he has doomed to destruction! and, with Nature only as a witness, how fearlessly he raises his impious hand against her creatures."

I well remember my attempt at photographing the first wild elephant I ever saw. I was marching one day, in the early morning, from one forest rest-house to another, mounted on Balmati, my faithful friend and ally. As we were going quietly along, we were suddenly startled by a loud report, which came from the dense [1]*sal* forest near the forest-road along which we were marching. The report sounded just like the crack of a rifle, and, although it was an unlikely place for poachers, it seemed as though the noise must have been caused by someone illicitly shooting deer. Balmati's mahawat, Karim Baksh, however, who has spent his life among tame elephants, assured me that it was caused by a wild elephant pushing over a young *sal*

[1] *Shorea robusta*

"Watching us closely in the usual wild elephant fashion'

tree, in order to feed on the fresh juicy green bark, which, much to the Forest Officer's sorrow and annoyance, wild elephants regard as a special tit-bit. I was naturally greatly excited, as I had never seen a wild elephant before, and I was only too anxious to try my reflex on this, my first chance. Unlike most Indian mahawats, Karim Baksh is not frightened of wild elephants, and Balmati is staunch with all wild animals, so it was agreed that we should creep quietly into the jungle, in the direction from which the sound had come, and, if possible, make some exposures. After some ten minutes of very slow and careful progress, we came suddenly upon the wild elephant, a makna, who was standing quietly over the *sal* tree which he had knocked over, watching to see—if he did not already know from the scent—what manner of beast was creeping up to him so stealthily. Unfortunately the light was poor, so that I was at a loss as to how to set about taking photographs. It was useless to attempt to go any closer, so, against the advice of Karim Baksh, I foolishly stood upright on Balmati's back and managed to make two very shaky exposures from my extremely unsteady, and, as I have since realised, dangerous position. One can never foresee what a wild elephant will do, and it is this uncertainty that makes photographing wild elephants such a fascinating pursuit. Had he made himself objectionable, or had Balmati been nervous, I must have fallen, in which case I was certain to have smashed my camera, and to have hurt myself, more or less, in the fall, even if the makna had not taken it into his head to add to my discomfiture. However, beginner's luck is proverbial, and, although my two exposures were so blurred and under-exposed as to be quite useless, no accident happened and at least I gained a certain amount of useful experience, without being any the worse for my foolishness.

After I had made these two exposures, the makna, who had been watching my antics steadily all the time, decided that he did not care for company, and, turning suddenly, went off at a sharp walk into the dense forest behind. We attempted to follow, but he went much faster than we could do and we lost sight of him altogether after a few minutes' futile effort to keep pace with him. I shall never forget my astonishment at the extraordinary way that huge beast—going away fast but without any flurry—seemed to melt away, in absolute silence, through the dense forest. It seemed almost impossible for so huge an animal to make so little noise, and I was left with the impression as of some weird grey phantom balloon floating away through the gloom of the dark jungle.

Later the same year I came across bull elephants, singly or in parties of two or three, on several occasions, and made a number of exposures with varying success, although none of the resultant pictures of that year are good enough to be included in this book. These elephants were generally located by the noise they made when breaking down bamboos, as they fed from the twisted bamboo-clumps, but the lighting conditions were very rarely satisfactory—as is nearly always the case in the dark Indian jungles, where absence of sufficient light for daylight-photography is the greatest difficulty with which one has to compete. Sometimes these elephants got my wind from a distance and disappeared forthwith; but more often they stood still and allowed me to make one or two exposures at about 20 yards' range, before turning to depart rapidly to some distant place. In these latter cases I soon found that it is utterly useless to attempt to

"He decided to come nearer to investigate"

follow, as a wild elephant, once he thinks he is being pursued, will go for miles, without stopping, over the most appallingly difficult and mountainous country, in which any attempt to come within photographic distance a second time is foredoomed to failure.

When I again went on tour the following season, I had —for better or worse!—embarked upon matrimony, and was naturally anxious to show my newly-wed wife one of the most interesting sights of these jungles—a wild elephant in its native haunts. We had not been out in camp very long before a report came in that a tusker was chasing the local staff in a certain piece of bamboo forest not far away. Thinking this story to be somewhat exaggerated, as is usually the case in India, we decided to go out on foot to see if my wife could be lucky enough to get a glimpse of her first wild elephant. Directly we reached the spot, we heard the crashing of trees and bamboos, and, on going closer, saw the enormous head of an obviously angry elephant quite near to us. He was clearly in a bad temper and I was just beginning to regret having brought my wife to be introduced to such a nasty-looking individual when he stepped quickly in our direction and knocked a biggish tree over with a crash. We were standing behind a large fig-tree at the time, and, remembering that a tusker of similar appearance in the next Division had recently been declared by Government to be a "rogue," I decided that the introduction had already been effected, and conveniently called to mind that I wanted to inspect a piece of jungle some distance away. We therefore retreated under the cover of the fig-tree and went on to do this inspection. Some little time later we had to return past the same place, and on approaching somewhat nervously, we found, to our relief,

that the elephant had departed, having knocked over two or three more trees—including a *rohini,* which elephants never eat—on his way. When we reached camp we heard from Karim Baksh that this animal was probably the "rogue" in question and that he was emitting the smell peculiar to elephants in musth, which must surely have accounted for such surly behaviour on being introduced to his local Forest Officer's wife!

We had another encounter with a wild elephant a few weeks after the above incident, and this time I succeeded at last in obtaining some moderately satisfactory pictures. We were out on Balmati looking for photographic adventures one morning, and, as we were proceeding along a river-bed, with dense forest on either side, we once more heard the familiar cracking sound made by a wild elephant feeding on bamboos. My reflex was all ready, so we cautiously advanced towards the spot, and soon came upon a fine young tusker enjoying his morning meal in what, for an Indian jungle, was a very good light. I made one or two exposures at once, while the tusker was watching us closely in the usual wild elephant fashion. After a minute or two he decided to come nearer to investigate, and I continued to expose plates as, gradually, he approached closer and closer, until, finally, his image covered the whole of the focussing-screen of my camera. By this time we were beginning to get a little nervous, so I told the mahawat to fire a shot with a small rifle over the beast's head. This he did, with the result that the tusker, a little startled, retreated a few yards and then stood, broadside on, sucking his trunk in perplexity. I made one last exposure on him in this position—the resultant picture was unfortunately slightly blurred—before we finally retreated, to be followed a short

"The second tusker's head appeared within a few yards"

distance as he watched us going away down the steep hill-side. The pictures on plates liii and liv are the best of the eight exposures made during this adventure.

The following day we went out again in order to try to make a second series of pictures, and ultimately found this same tusker once more; but, on this occasion, he was accompanied by another tusker, whose tusks had been broken off and sharpened up again. This time I left my wife, with my orderly, in a safe position in the river-bed, and advanced towards the two tuskers alone. I managed, under cover, to get very close, before the second tusker's head appeared within a few yards from behind a tree trunk. I had time to make only one exposure, producing the picture on plate lv before both tuskers, suddenly deciding to flee, rushed away, straight down into the river-bed, where my wife was waiting. She was luckily more or less concealed and the elephants, failing to see her, hurried down the open river-bed in single file, to disappear for good in a dense patch of bamboo forest on the other side.

Our next exciting adventure with wild elephants occurred the following year, and provided us with, possibly, the greatest thrill we have yet experienced in our photographic adventures among the wild beasts of these forests. We were having what in India is known as a "Europe morning" (which means that one does not get up with the sun) when we were awakened at about 7 a.m., by a knock at the door, followed by a deep voice announcing that a herd of wild elephants was feeding in a patch of open forest near by. We had been longing for an opportunity to photograph a herd of elephants, and in particular a baby elephant, but somehow or other we had always managed just to miss the herd, so we jumped out of bed, and were soon mounted on Balmati

and on our way to the scene of action. We soon came upon signs of the herd, in the shape of numerous footprints of all sizes, with debris of smashed bamboos and trees scattered all over the place; and, shortly afterwards, we saw a rather indifferent bull, who was obviously hanging about on the outskirts of the herd. We decided to leave him alone as unworthy of our attention and hurried on to where we thought the herd would be. In a very short time we saw several elephants, standing in a half-dried pool, throwing dirt and muddy water over themselves and enjoying their morning bathe. As we were watching these elephants we suddenly realised that a massive bull, accompanied by a large cow and a delightful little calf, some 3½ ft. high, was feeding on the bamboo clumps a short distance in front. Karim immediately announced that the bull was musth, but, nothing daunted, we pushed Balmati forward in such a way as to intercept the line in which these three elephants were slowly advancing as they fed. As we were doing this, the calf arrived at a piece of extremely dense shade, to be followed shortly by the bull, who stood just behind his baby and gently caressed him with his trunk. The great trunk made a curious rasping noise as it gradually slid down the comparatively diminutive back, and the whole formed a most fascinating scene, which would have made an ideal picture; but—as so frequently happens—the shade was so dense that it seemed quite impossible to obtain a fully-exposed plate, and we were reluctantly forced to wait, in the hope that the elephants would emerge from the shade in due course. This they did, the cow and baby leading, to be followed by the bull, who ambled leisurely on to a bamboo-clump, some distance ahead, where he proceeded to make a meal as I pushed Balmati a little closer and started to bring my camera into action.

"The massive bull was feeding on the bamboo clumps"

I made a number of exposures on him in this position, the best of which is reproduced on plate lvi, when, suddenly realising that something was wrong, he turned, and, seeing us, his whole body gave a start, his ears went back, his trunk started to curl, and we realised that we were really in for trouble this time. There seemed nothing else to do, so I continued to make exposures as hard as I could, while Karim, on the spur of the moment, and probably as the result of a lifetime spent among tame elephants, shouted to him in Hindustani to go back. This was, of course, the worst possible thing to do, as, the moment the great beast heard a human voice, his worst suspicions were confirmed, and he knew for certain that that hated creature, man, had come to interfere with him and his family. Karim, however, soon covered his initial mistake by doing the right thing, and fired a shot with a gun, just as the enraged lord of the herd lifted his foreleg (see picture on plate lvii) and charged at us, looking for all the world like a great lumbering motor-omnibus bearing down upon us. It appeared that nothing could save us, and, armed with no more than a camera and feeling guilty about my wife, who should not have accompanied me, I was just holding my breath for the shock of the impact when Karim providentially fired his second barrel, right over the monster's face, thereby causing him to swerve with a crash past one side of a small *rohini* tree, just as Balmati turned and fled on the other. We departed, fully routed, at Balmati's best pace of some 8 miles an hour, expecting the great brute to follow; but, after we had gone about 100 yards, we realised that we had made good our escape, more than a little shaken, but none the worse, except for the loss of my sun-helmet and the valuable lens out of my reflex camera. Directly we

stopped, we heard a shrill trumpeting as the whole herd foregathered, preparatory to departing at a rapid pace to some distant jungle, far away from the possibility of further interference from man.

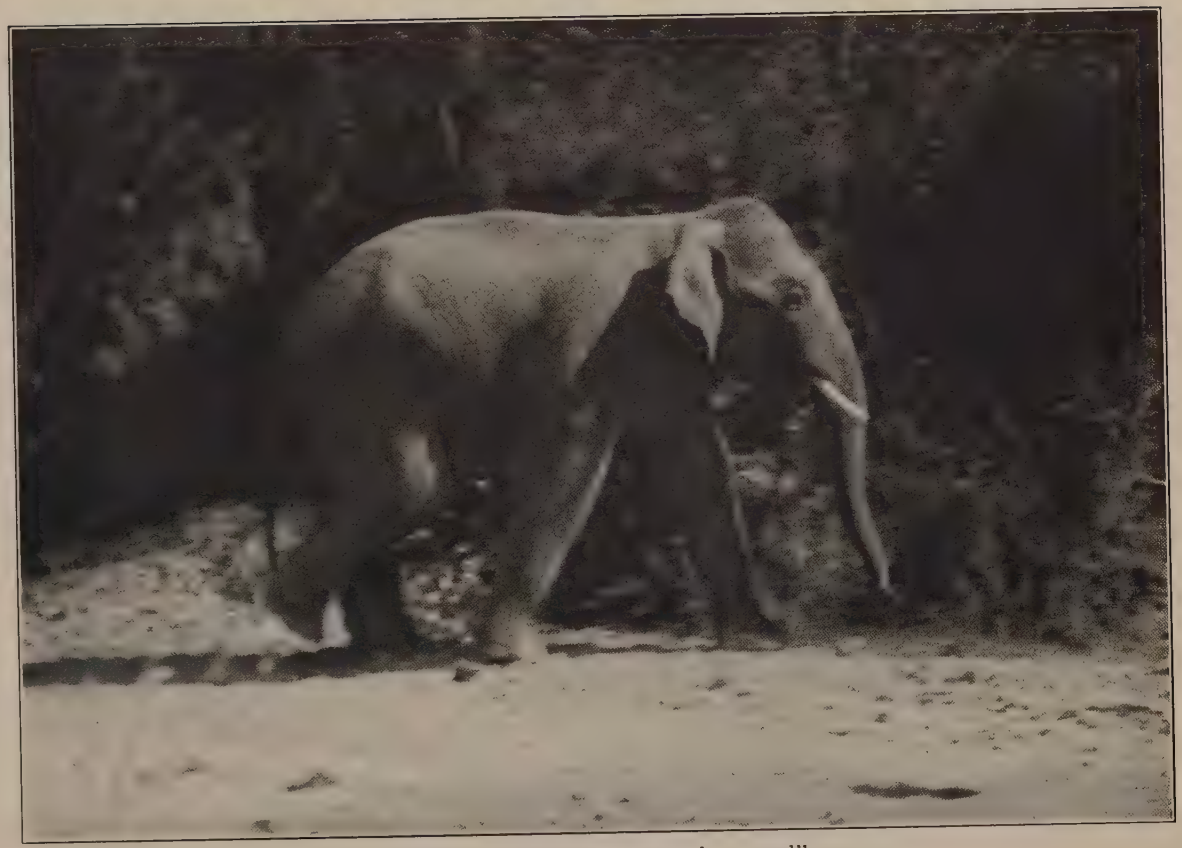
We retraced our steps as soon as the herd had gone and had the good fortune to recover the lens, quite uninjured, from the dense grass into which it had fallen. We then returned at once to camp, vowing, as we went, never to try to photograph musth elephants again. I wonder how long that vow will be kept! The photographs obtained on this occasion are of great interest, showing, as they do, the dark patch on the cheek caused by the oily musth discharge—referred to in the last chapter—which emerges from an orifice midway between the eye and the ear hole. One of the beast's tusks was broken and the head and trunk were covered with the scars of old wounds, presumably as the result of a fight for the mastery of the herd, which took place during the previous monsoon. This fight is said by local villagers to have lasted for three days, and this tusker, although ultimately victorious, must have suffered considerably in the fray. A similar fight, in which both combatants were killed, was recently recorded, from Orissa, in the Bombay Natural History Society's *Journal*. Another point of interest is that the trunk of the elephant, although ultimately coiled up more than is shown in the last picture we could take, was never coiled up like a watch-spring, as is usually related to be the case in stories of charging elephants. The ears were tightly pressed back against the sides of the head, in the fashion of most animals when in a bad temper, and were not pushed forward, as is described in more than one book that I have read. Lastly, this experience shows that a musth

"The enraged lord of the herd lifted his fore-leg and charged at us"
(Note the dark *musth* discharge from the orifice between the eye and ear)

elephant sometimes retains affection for his young, despite his notoriously bad temper at the time of this little-understood functional derangement.

The incident related above had rather an amusing sequel. One of my Indian rangers is an exceedingly hard-working and intelligent assistant, with a taste for natural history, but unfortunately he is somewhat lacking in a sense of humour. I related the story of this charge to him, and, telling him that I would like to make some more observations on the position of the trunk and ears in a charging elephant, suggested jokingly that he should make a series of experiments for me on the numerous wild elephants in his range. He took me quite seriously, and replying at once, "Very good, sir, I will make some experiments by means of my Forest Guards," he went off, leaving me to wonder how much compensation I should have to pay to the widows of the poor unfortunates who were to be used in the experiments. I assured him as he was going away that I was only joking, but later I received a most amusingly worded report—which unfortunately I had mislaid—to the effect that he had now had three men charged, and in each case the elephant's ears were laid back. Did I require the experiments to be carried on any more, because if so, he would, "no doubt," be able to make some more observations, even though his Forest Guards were not very enthusiastic in the matter! But I had already come to the conclusion that the joke had been carried much too far as it was, and ordered him to drop the matter at once. I was only too thankful that no accident had occurred, and wondered when I should receive an official censure from Government for using Forest Guards in a matter not provided for in the Civil Service Regulations!

One of the great difficulties with which one is faced, when taking photographs of wild elephants from the back of a tame one, is that the latter is often—for some unaccountable reason—extremely frightened of its wild cousins. Balmati, my favourite tame elephant, was caught some twenty or more years ago in the last *khedah* in these very forests, and, although she is perfectly staunch on all occasions, her heart often beats so violently when close to a wild elephant that the camera shakes with the very vibrations, thus spoiling many a good picture. One often wonders what thoughts are running through her mind on these occasions, and whether her agitation is caused by suppressed fear, or by her recognition of what may possibly be one of her own blood relatives. Another difficulty is the mahawat, who, nine times out of ten, has such an instinctive terror of wild elephants that nothing will induce him to go anywhere near one, if he can possibly avoid doing so. Karim Baksh, Balmati's mahawat, is above reproach in this respect, but his assistant and adopted son, Ishmael, whom I have tried to train in the difficult art of mahawat to a tame elephant used for elephant photography, used positively to shake with terror at the mention of wild elephants. One day, just as I was approaching my camp about mid-day after a very long and unsuccessful morning, we suddenly came upon the young elephant figured on plates l and lviii. One does not expect to see wild elephants in the hot mid-day sun, and I was somewhat taken by surprise, but, seeing the beast in the distance, I at once decided to force the boy to go up to it, in the hope that, the ice once broken, he would perhaps realise that wild elephants are not so much to be feared after all. With extreme reluctance, and only because he was afraid of my anger if he refused, he finally took Balmati up to within 25 yards of



"After the usual intent stare, he turned"

where the young tusker was digging mineral earth out of the bank of a dry water-course—evidently to cure himself of some internal trouble. The elephant turned at once, and, facing us, gave me the opportunity to take the picture on plate l, while the boy's face grew more and more livid as he sat on Balmati's neck, facing, for the first time in his life, that ogre of his imagination—a wild tusker at close quarters. As I have frequently emphasised in this book, none can anticipate the actions of a wild elephant, and, although I was more or less prepared for anything myself, I devoutly prayed that nothing would go wrong on this occasion, or my hope of curing the boy of his inborn fear would be hopelessly frustrated for ever. My lucky star was, however, in the ascendant, and, after the usual intent stare, the beast turned and went off down the water-course at his best pace, giving me the chance to produce one last picture in the shape of that reproduced on plate lviii. Finding that nothing happened to him, the boy, extremely pleased with himself, returned with us to camp, where he became quite a hero among the staff for many a long day afterwards. Since then, he has gone up to wild elephants with me on quite a number of occasions, and he is now quite a satisfactory mahawat for the purpose, although he still has to learn to use a gun in emergencies before he can be entirely reliable.

There is one very fine tusker, known locally as the "Palakdanta" (curved tusker), which frequents these forests, but which I have not had the good fortune to meet. I will conclude this chapter with a few verbatim extracts from vernacular reports on this elephant, as translated into English by a junior clerk in my office.

"Sir,

"On the 31.8.26, while coming to Shampur from Laldhang, at about 3 p.m. with my servant and 3 Forest Guards of Chandi Range, I saw an elephant, whose face was not turned towards us, standing at a distance of about 200 fathoms from the road. I was on horse and therefore could see the elephant first. I called out to my men that an elephant is standing. As soon as I uttered these words he turned towards us and began to pace fast; my companions ran away, scattered into the forest, and I made my horse run as fast as I could along the road, but the elephant too followed the horse speedily for about a furlong. The elephant, when there was distance of about 50 fathoms between I and him, gave loud shriek, from which my horse got alarmed and I fell down.

"Taking speed of elephant in view I concluded at the time of my falling down from horse that the elephant's foot would be on me and I therefore resolved to save my life by running on foot and the same I did as soon as I fall from horse. I could see nothing while running, the cause of which was the serious hurt on my head. I could not see elephant after falling from my horse.

"Gopal Dutt, who was running on ahead, asked me not to run and feel frightened as elephant had stopped. I then felt somewhat soothing but due to hurt I was feeling giddy and sat on ground.

"Gopal Dutt, etc., came out to me and they pressed me on with their hands. After 15 minutes I came to my

senses opened eyes and could see around. I have got hurt in my right hand and over head. I feel that my mind has been affected by hurt on head as I am still feeling giddy to the time of my making this report on 1st at 5 p.m.

"On reaching Laldhang I was informed by one Ram Sarup that same elephant made him fled a week ago; besides this the elephant has also run behind some Gujars who with very difficulty save their lives.

"I am very much astonished at being alive. I have at least on 50 occasions faced the elephants in forests in my service but have never seen such a rogue and fast runner.

"It is very difficult to save one's life from such elephant's attack unless the help of God is with him.

"Last year too this elephant attacked the Gujars so much that a Gujri breathed her last in Nalonwala block.

"From these occurrences it appears that this elephant is getting more habituated to oppress people day by day, which would become danger for general public in future. If after inquiries it is proved that same elephant has been attacking the people arrangements must be made to put end to this danger in interest of public welfare.

"Identification marks of elephant:

(1) Tall stature.
(2) Both tusks long enough and fat.
(3) White spots on head and near neck and ears.

. . . . .

"The 'Palakdanta' is a rare and precious elephant. He deserves special protection from Government. In case he proves dangerous in future and commits numbers of crimes an officer of the same capacity may be given an opportunity for this trophy!"

Chapter 13

DEER

OF THE sub-family Cervinae there are 5 species which occur in the submontane forests of the United Provinces, and of these the Swamp Deer (*Cervus duvauceli*) is very local, being confined to the one or two Forest Divisions where there are the large swamps so beloved of this species in this part of India. The other species are the Sambar (*Cervus unicolor*) the Chital (*Cervus axis*), the Hog-deer (*Cervus porcinus*), and the familiar little Barking-deer (*Cervulus muntjac*). The hog-deer lives in swamps and great grassy plains, where the cover is so dense that I have not attempted, so far, to pursue it as a photographic subject. After the grass is burnt in the spring, however, these deer frequently come out in the open to feed on the succulent new grass which follows the fires, and I have no doubt whatever that, given a suitable "hide" and the time required for the use of such devices, it would be possible to make a series of very satisfactory pictures.

The barking-deer occurs all over the foot-hills, but does not, as a general rule, extend far into the forests of the plains at the base of the hills. The *kakur,* as the barking-deer is called in this part of India, is not an easy subject to photograph from an elephant, partly because his reddish colour requires a strong light to portray satisfactorily, partly because he is so small, and also because his movements are so jerky and his eyes so sharp that he never seems to give a good opportunity to make an

exposure. As I have been fortunate in having a splendid elephant in my charge during the last few years, I have not spent much time in the pursuit of pictures of *kakur;* but, when the time comes for a transfer to a Division where such an elephant is not available, I hope to make good my deficiencies in this respect. *Kakur* should be very easy to photograph in the hot weather, when they drink frequently at the few remaining pools, which are often situated in places where there is ample light. They live in pairs and each pair has a particular piece of jungle, which is frequented for years on end. In cases where a fire-line is cut through such a resort they are often to be found at all times of the day, feeding on the luscious grass which follows upon the burning of the line in the spring. In these places a very few days' waiting in a "hide" made to resemble one of the huge termites' nests which are so familiar a feature of these forests, should soon give one the opportunity of studying and photographing these cheery little deer at close quarters.

The barking-deer derives its name from its alarm cry, which may be heard at all times of the day and night in any jungle in which the species occurs in any numbers. This alarm cry is repeated so frequently that the animal is sometimes known as the *chowkidar* (watchman) of the jungle; but he is a watchman on whose alarms very little reliance can be placed. True, his clarion call bursts out on the advent of a tiger or leopard, but it is often repeated violently for no obvious reason whatever, and the naturalist or sportsman who relies on the cries of animals for giving him information as to the whereabouts of the larger Carnivora soon learns that the cries of this diminutive deer more often than not simply lead him on a wild-goose chase. I know that *kakur,* on occasions, call for snakes, and I have a strong

suspicion that, when they have a fawn with them, the advent of an eagle is ample cause for the indulgence in an agitated outburst. I once had a most interesting experience with a *kakur* and a snake. I was wandering about on Balmati, looking for adventures, when I heard a *kakur* calling violently about half a mile away. As I was looking for sloth bear at the time and thus did not want to waste my time following up cries, which I had many a time proved by bitter experience to lead to nothing, I took no notice of this calling, but continued for some time unsuccessfully to search for bears. I could find no trace of them, however, so finally I decided to go and see what was the matter with the *kakur,* which had been calling continuously for at least half-an-hour. I had to pass through some very thick cover to reach the place and quite another half-hour must have elapsed before I arrived, on Balmati, to find the *kakur* standing some six yards away from a large python and yelling at it for all he was worth. Neither the *kakur* nor the python took the slightest notice of our arrival, so we stood quietly watching the scene from a few yards' distance. We must have made a curious picture standing there: the *kakur* and the python facing each other at a few yards' range, with the tame elephant carrying two men standing equidistant from them, and watching the scene as deeply interested spectators. I had no camera with me, and it was much too shady for photography in any case, so finally I brought the episode to an end by shooting the python, which proved to be sixteen feet long. I have since bitterly regretted that shot, as—although— it probably saved the *kakur's* life—it would have been very interesting to have seen what would have happened in the end. The *kakur* seemed to be more or less fascinated, in the way that a rabbit is said to be fascinated by

a stoat, and appeared to be unable to leave the spot, although far from unable to use his voice. He never once looked in our direction—although a *kakur* will normally not let an elephant approach very close—and the python was so near to him that, even though half coiled-up, it could easily have seized him with one sudden lunge. This is what I presume would have happened in the end, had not my foolish shot prematurely dropped the curtain on the scene, and I would suggest to all keen naturalists that they should leave their firearms at home and thus prevent their primitive hunting instincts from overcoming their better judgment on such interesting and unusual incidents as this.

A point in connection with *kakur,* which has raised a good deal of discussion among sportsmen, and on which there have been various notes published in the Bombay Natural History Society's *Journal,* is the peculiar rattling noise that these deer sometimes make when moving away rapidly. This noise has been likened to that made by a pair of castanets and its source has been variously attributed to the hoofs, the teeth, and the voice. Dunbar-Brander, whose opinion is always based on many first-hand observations, states that he has no doubt that the noise is merely a modified form of the usual cry of alarm, its jerky nature being due to the animal being in rapid motion at the time. Personally, I have no doubt whatever that this is the correct interpretation of the sound, which is somewhat unusual owing to its being produced while the animal is moving very rapidly. At the moment I can recall no other deer, unless badly wounded, which, by habit, calls when in rapid motion, and it would appear that some observers have let their imaginations run away with them when attempting to account for this admittedly somewhat-curious sound.

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The sambar is the largest deer found in the Indian jungles, measuring, as it does, between four and five feet high at the shoulder. It is fairly common throughout the Himalayan foot-hill forests, but large stags are rare, probably because these jungles are generally so very accessible that enormous numbers of indifferent stags are shot by sportsmen every year. In Central India it is considered unsportsmanlike to shoot any sambar stag with horns under 35 inches, whereas many shikaris in the United Provinces, failing to find big stags, shoot the one or two allowed on their permit no matter how small they may be. Sambar hinds are never shot, with the result that they must now outnumber the stags by at least 6 to 1, and the disproportion of the sexes is getting more and more marked every year, whereas the bagging of a big stag is becoming annually a rarer event. The only solution would appear to be for Government to impose a heavy fine for every stag shot whose horns measure less than, say, 30 inches in length, and to have some of the superfluous hinds shot off. Incidentally, rinderpest has recently attacked the game in Lansdowne Division and has been much more fatal to hinds than to stags, so that Nature has now stepped in to correct the proportions of the sexes.

Sambar are extremely nocturnal in their habits, and generally lie up on some steep hill-side, very difficult of approach, as soon as the sun has mounted any distance in the heavens. They, or rather the big stags, are, for this reason, very difficult subjects to portray satisfactorily with a camera by daylight, and many is the fruitless search I have made in my efforts to find a good sambar stag in a place where I could obtain a passably good negative. They are too large to be photographed easily by flashlight, so that they have, to me, remained one of the most

difficult subjects I have as yet seriously attempted. The hinds, however, partly because they are so much more numerous, and partly because they seem so much less intolerant of bright daylight, are far easier to photograph and I have managed to make numerous pictures of them from time to time. Sambar, in common with some other species of deer, seem to have little or no fear of a tame elephant—provided the latter is brought up to them carefully—and frequently a sambar hind will stand quite unconcernedly within a few yards of a tame elephant, apparently unconscious of the fact that the photographer is quietly sitting on the elephant's back. They evidently cannot have a very strong sense of smell, unless one is too high for one's scent to reach them, and whether it is that their line of vision does not normally reach so high as the top of an elephant's back, or whatever the cause may be, it seems extraordinary that an animal so notoriously difficult to stalk on foot can be approached with such consummate ease on the back of a tame elephant. The picture of a sambar hind enjoying her mid-day rest, reproduced on plate lix, is an example of this. We had spent a very long and unsuccessful morning hunting for pictures on Balmati and were returning about noon, tired and disheartened, when we came across this hind sitting down in a shady spot on the edge of a bare *sot*-bed. We brought the elephant up very carefully and finally got to within a few yards without disturbing her in the least. We stayed in front of her, in full view, for some minutes, and she seemed very interested in the swaying head and flapping ears of Balmati, who was tired and impatient to get back to camp for her drink and dinner—but never a trace of fear did she show. Indeed, I am sure that she had no idea that men were perched on Balmati's back, and her gaze was purely one of lazy curiosity at the sight

"Never a trace of fear did she show"

of the mighty beast standing in front of her. We exposed all the plates we had, and finally left her, still sitting exactly as she was when we first saw her. Even sambar stags, which are normally much more wary than the hinds, can often easily be approached in this way, and I have frequently stayed within a few yards of both sexes for minutes at a time, hoping against hope that, sooner or later, a big stag will emerge out of the dense shade which he frequents by habit and thus give me the long-sought chance of obtaining a picture of a good specimen of this —one of the finest of the deer tribe. In this connection I may mention that the shooting of sambar or chital stags from the back of a tame elephant, in jungles frequented by wild elephants, barely comes within the category of sport and many good sportsmen refuse absolutely to shoot these stags in this way.

The besetting sin of deer is curiosity and this trait in their characters may often prove of use to the animal photographer. On one occasion, as described in chapter I, I had failed somewhat ignominiously to take advantage of a good opportunity to photograph a makna, and we were shortly afterwards disconsolately proceeding up a forest-clad nallah in the hope of being more successful on our next chance presenting itself. We had not gone far up this nallah before we saw a sambar hind staring intently at us from beneath a bamboo clump. Curiosity was written all over this beast's face, and we made Balmati stand perfectly still in order to see what would happen. The sambar in this nallah were evidently well acquainted with elephants and this particular hind had probably seen the makna in question many times before, so that she showed no signs of fear whatever. Her great sensitive ears twitched backwards and forwards a number of times, and then, her curiosity evidently getting the better of

her, she advanced slowly in our direction, to be followed shortly afterwards by two other hinds which we had not previously seen. They came gradually closer and closer, until, finally, I could have touched them with a fishing rod from the back of the elephant, and yet they did not appear to be in the least afraid, but divided their time between mouthfuls of succulent grass and prolonged stares at Balmati. We must have watched them for at least half-an-hour in this way, before they were joined by a small stag who, for some reason or other, immediately became suspicious, and, giving one sharp "bell," stampeded the whole party into the next nallah. I made five exposures on this occasion of which the best, showing the curious ladies approaching from the bamboo clump, is reproduced on plate iii.

Perhaps the best opportunity I have ever had of making a picture of a good sambar stag occurred in this very same nallah, on a previous occasion, and was on a day when I was out looking for meat for my numerous camp followers. In the cold weather, in these jungles, there is a heavy white mist, which persists for an hour or so in the morning before it is dissipated by the rising sun. I was going along on Balmati, just as the mist was clearing, when, on turning a sharp corner, we came face to face with the finest sambar stag I have ever seen in the flesh. He was walking slowly towards us along the dry nallah bed, and the clearing mist outlined his magnificent antlers and splendid mane in such a way as to make a picture such as one dreams of, but never expects to meet in reality. There he stood.

"Captain and leader, and lord of the herd."

as, cursing my luck at being without a camera, and feeling a callous murderer as I did so, I fired at him, but only succeeded

Chital stags with their horns in velvet

in inflicting a crippling wound. There is nothing I detest more than leaving a wounded animal to die a lingering and miserable death, and also I had promised my camp to bring in some meat, so I followed him up and pumped the whole of my remaining five cartridges into him, until, at last, he fell over, terribly crippled, but still very far from dead. Here was a dreadful quandary: I had no more cartridges; my camp was three miles away and here was my poor victim lying in front of me, kicking violently in his agony, and from time to time giving vent to the most heart-rending screams that it has ever been my misfortune to hear. We attempted to approach with a knife; but my mahawat narrowly escaped a broken leg from a desperate lunge with those splendid horns, and I was ultimately forced to run back to camp for some more cartridges in order to put the poor beast out of his misery. Those awful screams and the sight of that magnificent creature struggling from the wounds I had inflicted upon him haunt me to this day, and I am afraid will continue to do so every time I see a big sambar to the end of my life. They have, however, taught me a lesson, and never again will I shoot big-game unless I am absolutely forced to do so. The whole incident vividly calls to mind the poignant definition of the hunter of record trophies, given by that genuine animal-lover, Thompson Seton, which runs as follows: "There was once a wretch, who, despairing of other claims to notice, thought to achieve a name by destroying the most beautiful building on earth. This is the mind of the head-hunting sportsman. The nobler the thing which he destroys, the greater the deed, the greater his pleasure, and the greater he considers his claims to fame." True it is that I was not seeking a record head on that occasion, and there is much in big-game hunting that tends to

bring out some of the finest qualities in man, but I cannot forget a definition which is so true that long ago I ceased to obtain any pleasure from shooting, no matter how fine my bag, and for the last five years or so I have given it up entirely, beyond what I am reluctantly forced to do in order to provide myself and my camp followers with meat. Many others are following the same road, and it is devoutly to be hoped that hunting with the camera will ultimately largely replace that kind of hunting—however great its charms—which made its appeal to earlier generations."

. . . . .

The last of the Cervinae to be included in this book is that delightful creature, the Chital or Spotted Deer (*Cervus axis*), which is considered by many to be the world's most beautiful representative of the deer tribe. My own pen could not do this beautiful animal justice and I cannot refrain from quoting the eulogy, written many years ago by "Hawkeye," whose charming writings on Indian animals have never been excelled.

"Imagine a forest glade, the graceful bamboo arching overhead to form a lovely vista, with here and there bright spots and deep shadows—the effect of the sun's rays struggling to penetrate the leafy roof of Nature's aisle. Deep in the solitude of the woods see now the dappled herd, and watch the handsome buck as he roams here and there in the midst of his harem, or, browsing among the bushes, exhibits his graceful antlers to the lurking foe, who, by patient woodcraft, has succeeded in approaching his unsuspecting victim; observe how proudly he holds himself as some other buck of less pretentions dares to approach the ladies

A stag standing over a water-hole

of the group; see how he advances on tip-toe, all the hairs of his body standing on end, and with a thundering rush drives headlong away this bold intruder and then comes swaggering back! But hark, a twig has broken! Suddenly the buck wheels round, facing the quarter whence the sound proceeded. Look at him now and say, is he not a quarry well worthy of the hunter's notice?

"With head erect, antlers thrown back, his white throat exposed, his tail raised, his whole body gathered together prepared to bound away into the deep forest in the twinkling of an eye, he stands—a splendid specimen of the cervine tribe. We will not kill him; we look and admire. Then a hind gives an imperceptible signal, and the next moment the whole herd has dashed through the bamboo alleys, vanishing from sight—a dappled hide now and again gleaming in the sunlight as its owner scampers away to more distant haunts."

What a beautiful word picture! And how the whole charming scene would have turned instantly into one of bloodshed and terror had the spectator impiously lifted his weapon in the hope of adding a record trophy to his collection! Surely the gift of being able to appreciate to the full the beauty of such a scene, and the happy memories it may recall many a long day afterwards, are worth far, far more than the possession of all the record chital horns in existence.

Chital are by far the commonest deer in India, where they are to be found almost everywhere provided suitable conditions exist. These conditions are open forests in the plains or very low foot-hills, with plenty of good grazing and water in the vicinity. They are protected, and shot only under permits in Government Reserved Forests; but their numbers have been

sadly depleted in other places since the war, owing to the enormous extension of the issue of gun licences which has followed upon the rapidly changing political conditions of India. Bordering on my charge there is some open Zemindari forest, where the banging of firearms of all kinds is almost continuous, day and night, year in and year out, as the now numerous licencees carry on their war against the wretched chital, who, until quite recently, used to spend a more or less happy existence—disturbed only at intervals by the advent of shikaris, who at least knew how to play fair in their hunting. Chital, of course, when they become too numerous, do a great deal of damage to villagers' crops and forest plantations, and their numbers must be kept within bounds; but these modern possessors of firearms are generally townsmen who have no interest whatever in crops, and who, respecting neither age nor sex nor season, harry the unfortunate deer purely in the hope of personal gain. There are Wild Animal and Wild Birds' Protection Acts, but their enforcement is almost impossible in the present state of India; and, unless strong measures are taken before very long, furred and feathered game will soon cease to exist, outside Reserved Forests, in any but the most remote jungle tracts.

Chital are still very numerous inside the Reserved Forests, and their habit of feeding in the open until late in the morning and again early in the evening makes them possibly the easiest subject in India from the animal photographer's point of view. I have made literally hundreds of exposures upon them from time to time, but, somehow or other, I always seem just to miss the ideal picture which I carry in my mind's eye. They can, with difficulty, be stalked on foot, and they can be photographed from a "hide" placed near their drinking-places, although most

A chital hind and fawn

of my pictures have, as usual, been taken from the back of a tame elephant. In many places an elephant is, however, worse than useless for photographing chital, which, by habit, live in such open forest that they can easily see for long distances all round. If wild elephants do not occur, or if the chital have been much shot at from tame elephants, it becomes almost impossible to bring one of the latter within even 100 yards' range, which is far too distant for any but the most highly-powered telephoto lenses—and these can, in any case, never be used from the swaying back of an elephant. Under these circumstances, it is generally much better to use some other device for getting within photographic range; but I am lucky in having plenty of wild elephants in my jungles, and, after a good many initial failures, I can now often get right in the middle of a herd, without the chital ever becoming aware of my presence. The whole art in the use of a tame elephant for animal photography lies in trying to deceive the wild animals into thinking that the tame elephant is one of its wild cousins, merely pursuing its normal vocation in the forests which are shared by all. This is obviously not an easy thing to do and requires a great deal of care. A *howdah* can never be used, as it destroys immediately all resemblance to a wild elephant. The other extreme would be to dispense with a mahawat's services altogether, and to take the elephant oneself, barebacked, into the jungle, guiding the beast with one's legs and taking photographs from a seat on her neck. This, the ideal, although it might be possible in exceptional cases, is far beyond the powers of most people, and may be ruled out at once. One is thus left with the alternatives of a pad on the elephant's back, or the light wooden structure, somewhat like the frame of a small wooden bed with very short posts, which is in common use in the United

Provinces, and which is known as a *khatola.* The pad is quieter and approximates better to the natural shape of an elephant's contour; but the *khatola* is extremely useful for hanging on to in emergencies, and also provides the pegs which are almost essential for carrying such articles as spare cameras and field-glasses. Although for shooting I think the pad is preferable, the *khatola* is more satisfactory from the animal-photographer's point of view and has given me perfect satisfaction even after prolonged trial. The only essential is that it must not creak or make any noise whatever, and it must be of a dull and inconspicuous colour. The same remark applies to the clothing of the photographer and the mahawat, which must blend with the colouring of the elephant and with the surrounding jungle. Talking must be avoided to the utmost possible extent, and, above all, the mahawat must be made to realise that nothing is more fatal than sudden movements. How often has a splendid opportunity been spoilt by a mahawat or orderly suddenly lifting his arm to point and whispering "There he is!" "Look!" with the inevitable result that the animal in question departs, scared out of his life, when there was no need to frighten it at all. No one on the elephant should ever be allowed to raise an arm to point, and, should anyone else see the quarry before one does oneself, all he has to do is to touch one gently on the back or leg, and give a slight nod of his head in the direction in which he has located the animal. The mahawat is then directed with signs, and, if absolutely necessary, the faintest of whispers. The mahawat must be made to understand the limitations of photography; he must be interested in the game; and, above all, he must be keen—otherwise the only thing to do is to get a new mahawat, or to give up trying to take photographs with the help

A chital hind staring at Balmati

of a tame elephant. This is the crux of the whole matter and where photography clashes with shooting. Most present-day mahawats have been trained from a shooting point of view only, and cannot be made to realise that what may be an excellent position for shooting is, nine times out of ten, utterly useless for photography. Firstly, there is the question of sufficient light, a point which I find it very difficult to make a mahawat fully appreciate. My men know that I am very anxious to make more pictures of sambar stags, and are therefore always trying to induce me to take photographs in the dark [1]*sal* jungles—the favourite haunts of big stags—although I have never yet produced a fully exposed plate in a *sal* jungle. Again, it may be perfectly feasible to take a shot with the sun full in one's eyes, but the mahawat has got to realise that the lens cannot do this. Thirdly, the slightest movement of the elephant during the exposure inevitably ruins the picture, and it is by no means easy to induce any ordinary elephant to stand absolutely still. Lastly, and this is perhaps the greatest difficulty of all in the dense Indian jungles, there are the intervening twigs and branches which so frequently ruin an otherwise excellent opportunity. I have never yet succeeded in making a mahawat fully realise that my view-point is some three feet behind his, so that, even though he may get a clear view, it by no means follows that I can do the same. In other words he has to find the best view-point and then advance some three or four feet so as to place my camera in that *optimum* position, whereas he will have moved out of it. One or more of these difficulties will have to be faced ninety-nine times out of a hundred before an exposure can be made. And when, in addition, the mahawat nearly always thinks the Sahib is

[1]*Shorea robusta*

mad to throw away an easy shot in order to try for a very doubtful chance to make a picture, which he (the mahawat) does not understand even when obtained, it can be realised how difficult it is to find a man who is of any use whatever for the purpose.

But I have wandered far from the subject of deer, and must return. Imagine that we are mounted on Balmati, and, having sighted a herd of chital some hundred yards away, we can assume that we also have been seen by them. What should we do? Well, the first essential is to avoid hurry at all cost; the second is to refrain from staring at the animals; and the last is never to attempt to take the elephant straight up to them. The elephant should be allowed to wander quietly about, feeding as she goes, and very, very gradually being guided in a zig-zag course nearer and nearer to the feeding herd. Members of the herd, particularly the hinds, will often stand and stare suspiciously from time to time at the elephant; but, if the approach be made sufficiently slowly and carefully, they may ultimately decide that she is only a wild elephant browsing, in the way they have often seen other elephants browse. Most animals, except the Carnivora, live more or less in harmony with each other in the jungle which is common to all, and deer will generally let wild elephants approach quite close without evincing any fear. But wild elephants, particularly when solitary, are often morose and surly in temper—a fact that one may assume the chital to know—so that they are always suspicious of an elephant coming straight towards them, and will often bolt if one does so. Hence the elephant's head should never be directed straight at the deer, and, if the latter seem nervous, it is better to turn round and retreat a little before attempting to approach again from another direction. Many times will such

A young chital stag

stalks fail for one reason or another, but they will also succeed on other occasions, and I have often spent half an hour or more, perched on Balmati's back, right in the middle of an unsuspicious herd. This is particularly easy to do in the rutting season of March and April, when the stags are so busy fighting among themselves and making love to their numerous wives that they tend to become careless of external dangers. Most of the pictures of chital reproduced in this book have been obtained in the rutting season in this way, and I have several times watched at close range desperate battles between stags, although I have so far failed to obtain a satisfactory picture of such a fight.

Chital hinds are very solicitous in the care of their fawns, which they hide in the grass on the approach of danger. They then often retreat a short distance, and, standing nervously watching the intruder, stamp at intervals on the ground with their forelegs, and sometimes even try to entice him away. The picture on plate i shows such a hind, whose outstretched neck, nervous eyes, and stamping foot are absolutely typical of a mother chital when she thinks her baby is in danger. In this particular case the baby was hidden in the long grass right under the elephant's feet, and, careful though these great beasts are, there was imminent risk of the baby chital being flattened to the proverbial pancake.

Inside Reserved Forests, by far the worst enemy of the chital is the leopard, whose chief food they provide. When camped in places where chital abound, one hears their familiar alarm cry at frequent intervals, day and night, and, in most cases, the advent of a leopard is the cause of the outcry, which, with the bark of the *kakur,* is the commonest sound of the Indian jungles. Chital must have very short memories, and no imagination whatever, or

the constant inroads on their numbers made by leopards would soon make them such "bundles of nerves" that life itself would become almost unbearable. A herd of chital may be feeding peacefully in the jungle, when, suddenly, a leopard appears on the scene, to be greeted by a veritable babel of cries, in which the hinds take a leading part. The leopard may or may not secure a victim; but, as soon as he is out of sight again, peace will return almost at once to the herd, which will continue feeding as though all thought of the sudden death lurking so near had completely left their minds. Compare this with the state of abject terror to which the whole Indian population of a district is so soon reduced on the arrival in its midst of a man-eating tiger or leopard; and yet most man-eaters take only an occasional victim here and there, and practically never live entirely on human flesh. Were such a monster to rely almost exclusively on the flesh of its human victims, how long would the nerves of the potential food supply be able to stand the strain? Can a country-house party in England, enjoying, say, a picnic in the woods, imagine a leopard suddenly appearing in their midst to remove one of their number as he was drinking his tea? Would the others, who might also fall victims any day, continue their meal as though nothing had happened? And yet this is precisely what happens daily with chital in the Indian jungles. It is the same when the poor beasts want a drink, drinking-places being among the favourite hunting grounds of the greater Carnivora, and that dread beast, the crocodile. How soon would prohibition become effective if one had to risk one's life every time one went to the side-board to mix a whisky-and-soda!

The only parallel I can call to mind is the system of blood-feuds among Pathans. A Pathan engaged in such a feud never

Listening to a rival's challenging roars

knows from one day to the next when or where his enemy may be lying in wait for him and his life is never secure for a moment. But, if he be sufficiently wary, he can at least save himself by killing his enemy before he himself is killed, whereas, in the eternal vendetta between leopards and chital, the latter have no means of retaliation, and can do nothing but hope that their turn will not come too quickly.

The spots on a chital's hide are considered by advocates of the theory of "protective coloration" to be of a protective nature. When chital are in dense cover this is certainly the case and their spots do strongly resemble the patches of light and shade which filter through the trees; but, unfortunately for the theory, chital do not, by habit, live in dense jungles, whereas they much prefer the open forest in which their colouring can by no stretch of imagination be called protective. On the other hand, the sambar, which lives in places where such spotted markings would undoubtedly help him to be less conspicuous in his surroundings, has a plain brown hide which at times is very prominent.

An interesting point in connection with chital is their constant association with the brown monkeys and langoors, which are so common in these jungles. When one sees monkeys feeding on trees in the distance one knows that the chances are that there will be chital underneath, and this knowledge is often of great service to the observer in locating these deer. With the exception, possibly, of pea-fowl, monkeys have the sharpest eyes of any creatures in the jungles, and their hatred of leopards, combined with their commanding position high up in the trees, makes them most effective watchmen for the herds of deer feeding beneath. In addition, they knock down large quantities of succulent fruits

and flowers as they feed and these tit-bits are greedily devoured by the waiting deer below, who thus receive two services from their monkey neighbours—an effective system of look-outs and an easily-obtainable and tasty meal. It would be interesting to know what service, if any, chital render to the monkeys in return for these boons.

Antlers which any hunter would covet

Chapter 14

ANTELOPES AND OTHERS

THE Nilgai (*Boselaphus tragocamelus*) belongs to the one surviving genus in Asia of the Tragelaphine antelopes, which include the African Eland and Kudu, and is the only living species of the genus. It is peculiar to India and is very rarely found in dense forest, being confined almost entirely to open scrub jungle, bordering on the edge of cultivation, in which it is exceedingly troublesome, particularly where the cultivators are Hindus, who consider the species as sacred on account of its bovine appearance. In such places their destruction is forbidden, with the result that they tend to increase enormously in numbers, and thus, like monkeys, become an absolute plague to the wretched Hindu cultivator, who can do little to check their ravages.

The name *nilgai,* meaning literally "blue cow," is exceedingly unsatisfactory, in that the female, or "cow" of the species, is brown, with no suggestion whatever of blue. The male, however, is a fine upstanding animal of a dark slaty-blue colour, so that, if the male is to give the name to the species, this name should be *nilgao* instead of "nilgai." Misnomers of this sort are only too common in India, another striking example being the Black Ibis, which is known to sportsmen all over the country as the "King Curlew," owing to its large size and curved bill, notwithstanding the fact that it has nothing whatever to do with curlews!

Nilgai should be very easy to photograph in parts of India where they are shot or harried by cultivators. Indeed, in some places they are so numerous and tame, and form such an easy mark for the tyro sportsmen, that they are sometimes known as the "Subaltern's joy" on the grounds that most shikaris begin their sporting career in India by practising on a mark which few can miss, even though it takes a well-placed shot to lay this fine muscular creature low. They are not common, however, in the dense forests of the Garhwal Bhabar and I have had few opportunities of trying my camera on them; but the two photographs included in this chapter are typical of the bulls, which, despised though they may be by sportsmen owing to the poor trophies they provide, are, nevertheless, of considerable interest to those who do not measure their trophies in inches.

Like blackbuck, nilgai are very tolerant of the sun and may be seen feeding at all hours of the day. They are gregarious animals and are generally seen in family parties, although a dozen or more old bulls may sometimes associate together. They do not appear to be particular about drinking daily and their haunts may be recognised by their habit of repeatedly depositing their droppings in the same spot until considerable accumulations are formed.

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Three other representatives of the family Bovidæ occur commonly in the lower forests of the United Provinces, but, unfortunately, none of these is common in the particular forests to which my photographic adventures have largely been restricted. These are the Four-horned Antelope (*Tetraceros quadricornis*), the Blackbuck (*Antilope cervicapra*) and the Indian Gazelle (*Gazella*

(*a*)

(*b*)

Nilgai. (*a*) A bull going away
(*b*) A bull enjoying a meal

Silhouette of a gural at home

bennetti). Four-horned antelope do occur, but not commonly, although I know of one family party which I have tried, unsuccessfully I regret to say, to photograph at intervals during the last few years. This party consists of one buck and four or five does, which have frequented the same place for a considerable time. In the *Fauna of British India* (Blanford) it is stated that this species is not gregarious and that more than two are very rarely seen in company, yet this family party consists of some five individuals which always appear to remain together.

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The blackbuck is too familiar to all who have been in India to require description here. The male is one of the world's finest antelopes and its colouring is particularly suitable to photography, so that I can only regret that I have not had the opportunity to obtain any photographs for inclusion in this book. The Indian Gazelle, or *Chinkara,* is another beautiful creature, which—I am sorry to say—I often murdered before I abandoned the rifle altogether, and, since then, I have not seen a single example.

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Gurul (*Cemas goral*) and Serow (*Nemorhædus bubalinus*) also occur in the foot-hill forests. The former is an exceedingly common animal, whereas the latter is a rare, shy, and solitary creature, which is seldom seen, and nowhere common. Gurul would be very easy to photograph, provided one had the necessary time at one's disposal, and also had a good head for the precipitous country they frequent; but I have spent little time in the pursuit of their pictures, largely because reflex cameras are too expensive to risk smashing to pieces in a slip down a

steep mountain side. An indifferent silhouette is, however, shown on plate lxviii.

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I have seen serow twice only in my life. One I shot many years ago near Ranikhet and the other I came across one day when I was inspecting a piece of forest, and on an occasion when I had neither rifle nor camera with me. I did, however, watch this weird creature, somewhat suggestive of a long-haired donkey with horns, for perhaps half-an-hour, at a distance of about 50 yards, and thoroughly enjoyed the experience. It was standing on the side of a very steep wooded valley and remained absolutely motionless for several minutes at a stretch. I would mention that Blanford's *Mammalia* gives the minimum elevation at which serow occur at 6,000 feet and this is confirmed by Major G. Burrard in his *Big Game Hunting in the Himalayas and Thibet,* but his particular individual was evidently living at about 2,500 feet, with no hills much higher anywhere near, and I have heard of others having been seen at even lower elevations.

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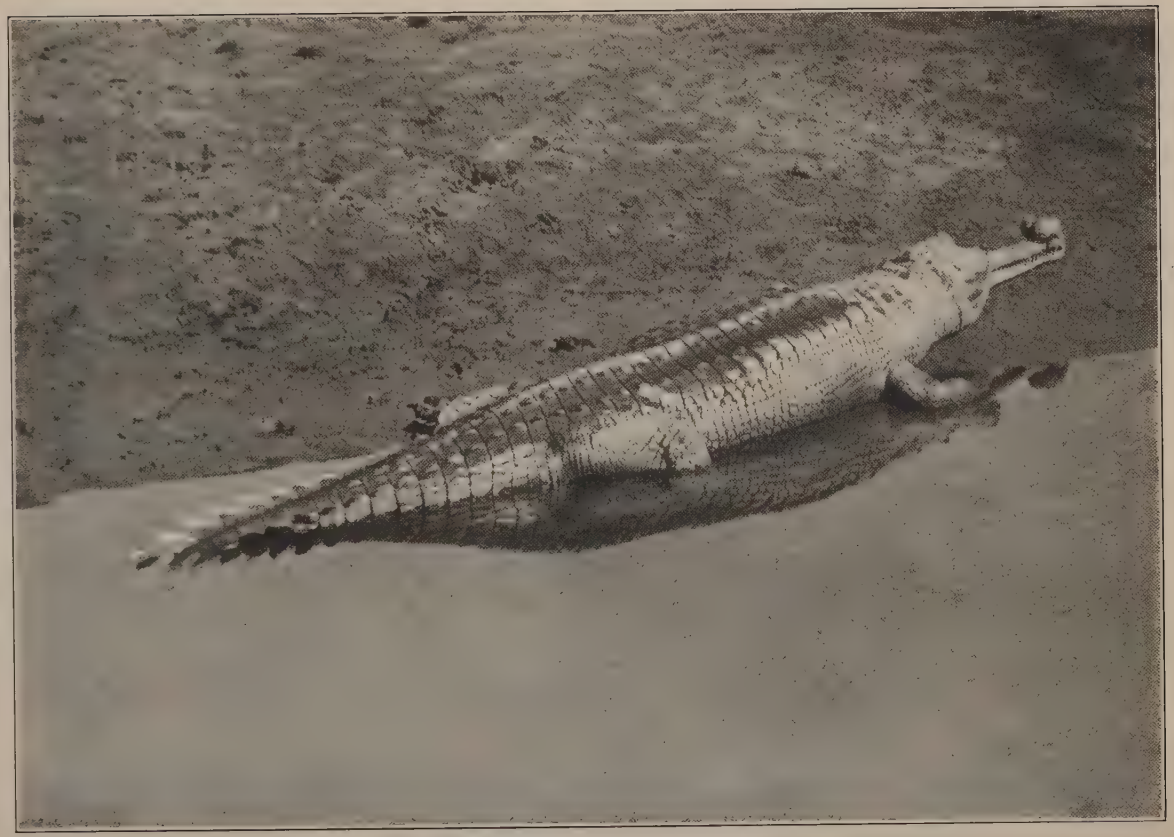
The family Cervidæ (deer) has already been referred to in detail in the previous chapter, and the only animal of the order Ungulata left for discussion here is the Indian Wild Pig (*Sus cristatus*), which is too well-known to all sportsmen in India and elsewhere to need any description from me. Wild pigs are common throughout the length and breadth of India, even ascending high into the Himalayas, and are by far the worst of the four-footed animals which plague the Indian cultivator. They are common both in dense forest and in open cultivation, and, in the latter, where the country is suitable for riding, they provide the

A pair of wild boars



A large Gharial (*Gavialis gangeticus*)

sportsman with that greatest of all blood-sport—pig-sticking—a sport which requires the possession of some of the finest qualities in both man and horse. Many far abler pens than mine have already eulogised this prince of sports, and I will go no further than to say that a wild boar at bay will fight to the last gasp with a courage which is probably unequalled by that of any other quadruped. Apart from his magnificent courage, a large boar is also a fine-looking animal, so surely we misuse the word "pig" when we apply it as a term of contempt. Wild pigs are not easy subjects to photograph because of their excellent eyesight and habit of keeping largely under cover unless driven out; but a fair picture, which shows admirably the characteristically truculent attitude of a suspicious boar, is figured on plate lxix. Large litters of baby pigs may often be seen in the jungle, in the hot weather, the young pigs being of a light brown colour with longitudinal stripes of a dark brown—a colouring which disappears after a short time. Numerous cases are on record of battles between a large boar and a tiger, in several of which the boar has proved the winner.

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The orders Cetacea and Sirenia, which include the whales, dolphins, porpoises, dugongs and manatees, obviously do not come within the scope of this book. We are thus left with the last order of Placental mammals, the Edentata, of which the sole representative in India is the Indian Pangolin or Scaly Ant-Eater (*Manis pentadactyla*). One specimen of this species has recently been killed in the lower parts of Lansdowne Division and I am told that others are caught from time to time by Gurkhas in the neighbourhood of Dehra Dun, but I have never seen one of these creatures outside a zoo and thus have nothing to say on the subject.

Chapter 15

PHOTOGRAPHY

THROUGHOUT this book constant references have been made to photography and its attendant problems, but, for the benefit of those who have little knowledge of the specialised subject of natural history photography, I propose to include in this chapter a few notes based on my own personal experiences in photographing wild animals under the somewhat peculiar conditions obtaining in the Indian jungles.

Firstly, it may be as well to emphasise that continued success in photographing wild animals will be obtained only by those equipped with really good apparatus, which they have thoroughly mastered. Such apparatus is not cheap, and, although it may be possible occasionally to obtain a good picture with an ordinary folding hand camera, such chances are very few and far between, and those who aspire to success in this absorbing hobby must be prepared to buy good instruments, which may cost them £100 or more. After all, almost every keen shikari, sooner or later, purchases a good double-barrelled big-bore high-velocity rifle, the cost of which may easily exceed this figure, so that, if he can find such a sum for a rifle, he can surely find it for a camera instead.

Before going any further, I would remark that I have no connection with any photographic firm whatever, and I mention names only because I am satisfied with the particular instruments which I have chosen after prolonged trial. Instruments by other

makers are probably equally good, but I can speak only of those of which I have personal experience.

Let us take the camera first. Almost all eminent animal-photographers agree that a reflex camera is a sine qua non for the fleeting chances of daylight-photography, so that the first purchase must necessarily be a camera of this type—and let it be by a good maker, since cheap reflex cameras are often worse than useless. There are a number of good instruments on the market, but some are too noisy and others too complicated, so that the choice should be made with care. The daylight-photographs reproduced in this book have nearly all been taken with a Soho (A.P.M.) reflex, which I have found quite satisfactory for the hard use entailed by this form of photography. The camera in question is not a tropical-model, made of teak and brass, but is of the ordinary type, and, after over five years of continuous service, it still looks almost new, so that the extra weight and cost of a tropical-model seem barely necessary, provided always that the camera be carefully looked after during the monsoon months, when, in any case, very little animal-photography can be done. Mirrors and focussing screens are often broken, so a number of spares of each should always be kept ready in hand.

As regards lenses, opinions differ considerably. Marius Maxwell, in his recent book, *Hunting Big Game with a Camera,* says that he finds long-focus telephoto-lenses to be of very little use in Africa, and he does not care even for medium power fixed-focus telephoto-lenses. Nearly all his pictures were produced with an ordinary 8-inch lens, and, strange to say, without a reflex-camera. It is to be noted, however, that his subjects were mostly very large animals such as elephants, rhinoceros, and

giraffes, which do not require very long-focus lenses. His method, apparently, is to stalk right up to his subject and then to expose plates at close range, often by holding his camera over his head and centring the animal by means of a direct-vision view-finder. His results amply prove that his method is practicable with the largest animals in Africa; but I do not think it would be of much use in India, where most of the animals are much smaller, and are, in most cases, far too shy to allow even the most expert stalker to approach sufficiently close to permit of the use of a lens of short focal length. Such a method also necessitates the presence of an expert shot, to save one when in difficulties, and the ordinary amateur in India will have to do most of his photography alone. Personally, I believe that long-focus telephoto-lenses are practically useless in India, except for such animals as blackbuck and the wild sheep and goats of the high Himalayan mountains, partly because they are generally too slow and partly because the forests are so dense that one can very rarely see an animal at any distance, owing to intervening undergrowth and trees. Almost all the daylight-photographs reproduced in this book have been taken with a 12-inch Dallmeyer "Dallon" fixed-focus telephoto-lens, which I have found an excellent instrument for use from the back of a tame elephant. It is light in weight, moderately fast, and gives good definition, although many pictures necessarily became blurred owing to inevitable movement of one's mount. A 17-inch "Dallon," or other similar lens, might also be used on occasions, particularly on a tripod or when standing on the ground, but it would be extremely difficult to use from an elephant, owing to the trouble of movement, which is quite bad enough even with a 12-inch lens.

For photographs of scenery and ordinary general photography a hand-and-stand camera of the type of the Sanderson will probably meet most requirements, particularly if two or three lenses of varying foci are carried. Special panels should of course be obtained, so that all the lenses that one may possess are easily inter-changeable.

As regards size, I use quarter-plate, partly because of its smaller weight, but also because an enormous number of plates must necessarily be wasted, so that larger sizes tend to become somewhat expensive in running costs. If one is sufficiently strong not to mind the extra weight, and if expense is of no importance, half-plate is probably the ideal size for natural history photography. A compromise is 5-ins. by 4-ins., which has a good deal to recommend it, the main objection being the difficulty of obtaining spares and supplies in India for this size, which is so much less popular than its merits deserve.

On the subject of plates I would first emphasise the vital importance of using none but those whose freshness one can absolutely guarantee. Nothing is more annoying than to spend days in exposing a single plate on some difficult subject, and then to find that the plate is stale. An example of this was recently made patently obvious in an article in the *Journal* of the Bombay Natural History Society, when a well-known bird photographer in India naïvely lamented that a number of exposures on a shy bird, obtained with great difficulty, all failed because he had purchased the plates in Murree! All plates should be bought monthly, or at shorter intervals, in hermetically sealed tins, either direct from England or through some photographic firm of repute in Bombay or Calcutta. The light is almost always poor in the jungles, so that the fastest plates procurable will

generally have to be used, and, even then, many and many a picture will be spoilt by under-exposure. As regards the make, there is probably little difference between the products of the leading firms, but nearly all my photographs have been taken on Wellington Iso (700 H. & D.) or Wellington Anti-screen (450 H. & D.) plates. These plates, particularly the latter, keep well in tins, but all exposures should be developed at the first possible moment, since photographic plates in the tropics seem to start deteriorating rapidly directly they have been exposed.

For development, chemicals of the "Tabloid" type are clean to use, handy to carry about in camp, and thoroughly reliable. I use Metol-Quinol, a non-staining developer, which gives clean negatives with good gradations. Development should never be carried too far, as almost all negatives require subsequent enlarging, and the patchy light inside the jungle has a great tendency to produce hard contrasty negatives, which are made much worse by excessive development.

It is much more interesting and generally more satisfactory to do one's own enlarging, although it is obviously impossible to carry a heavy artificial-light enlarging-lantern and its accessories about with one in camp. My usual procedure is to get rough enlargements made, professionally, of all valuable negatives as soon as possible, so that I still have a record should the fragile glass plate happen subsequently to get broken. Then, if one possesses or can obtain the use of a dark room, enlarging can be done at leisure during the monsoon or at any time when one has the opportunity and the spare time.

It goes without saying that a number of standard works on photography should be purchased and their contents thoroughly

An Indian evening during the monsoon.

mastered by anyone who wishes to specialise in the subject. Of better-known books, it would be difficult to improve upon *The Complete Photographer* by R. Childe Bayley (Methuen & Co.) and *The Dictionary of Photography,* edited by F. J. Mortimer, F.R.P.S. (Iliffe & Sons), and these two works, among others, should be in every photographer's library.

Night-photography by means of flashlight is a subject in itself, and is naturally somewhat more complicated than ordinary day-light-photography; but many of the inhabitants of the Indian jungle are so nocturnal in their habits that its use becomes almost essential to those who wish to photograph some of the finest animals in India. Apparatus suitable to flashlight-photography of wild animals has been brought to a high pitch of perfection by Americans, and I cannot do better than to recommend all who are interested in this fascinating hobby to purchase the fine volume entitled *How to Hunt with the Camera,* by Mr. William Nesbit, and published by E. P. Dutton & Co., 681 Fifth Avenue, New York. I have used the admirable flashlamps invented by Mr. Nesbit for some years, and I can heartily recommend them as entirely suited to conditions in the tropical Indian jungles: indeed, I should never have obtained many of the pictures of tigers and other animals which illustrate this book, but for the help of these flashlamps, which have proved a never-ending source of pleasure to me during my camera-hunting expeditions.

The whole subject of flashlight-photography is discussed in great detail in Mr. Nesbit's book and I will do no more than give a brief outline here. In the pioneer days of flashlight work the operator used to lie in wait for his sitters and then fire his flash-light with one hand as he tried to release his shutter at exactly the right moment with the other. In this way it is obviously

extremely difficult to time the shutter exposure with the exact moment of maximum intensity of the exploding flashlight, so that success was rare, quite apart from the trouble due to unsatisfactory flash powder. Another method is to leave the shutter of the camera open, with the slide drawn, and then to allow the whole light of the flash powder to act on the plate. This method is commonly in use among professionals for photographing dinner-parties, and the results are only too familiar to us all! The duration of the flash is perhaps 1-10th of a second, so that movement among the sitters nearly always results in blurring, even when these sitters are human and are definitely trying to remain still. How much more hopeless, then, is it to try to use this method for animals, which cannot be told to stand still and which are far more often in rapid motion.

Mr. Nesbit's method, however, overcomes all these difficulties. In his apparatus the flash powder is fired electrically and the lamps are so constructed that the force of the igniting powder, acting on a movable cylinder, depresses a long antinuous release, which, in turn, releases the shutter at exactly the right moment—provided the necessary adjustments have been carefully made. The figures on plate lxxiii show this apparatus and its method of working, which is, in reality, extremely simple once the general principle has been fully grasped. The heavy shadows which mar so many flashlight pictures are reduced by the use of an auxiliary lamp, and, if higher shutter speeds are desired or it be wished to photograph animals at a greater distance, several of these auxiliary lamps may be used. More than two lamps are, however, rarely necessary and most of the flashlight pictures reproduced here have been taken with two flashlamps, at distances of from twelve to twenty feet, and at shutter speeds of from

A pea-fowl's nest

1-100th to 1-200th of a second, the lens being used at full aperture.

Mr. Nesbit manufactures a special moisture-proof camera for use with his lamps, and such a camera is undoubtedly an excellent piece of apparatus for those who can afford it, although the fact that it can be used only for three fixed distances is a distinct disadvantage when attempting to photograph such cunning animals as tigers and leopards. The lamps can, however, be adjusted to almost any camera fitted with a between-lens shutter of the Compound type, and I have used an ordinary tropical model quarter-plate Sanderson camera with complete satisfaction for all my night-photography.

The distances at which flashlight photographs are taken is a matter of considerable importance. The intensity of light varies inversely as the square of the distance from the source of light, so that, if the subject be, say, twice as far away, the exposure required will be four times as much and not twice, as one might suppose at first thought. Similarly, with three times the distance, nine times the exposure is required, and so on. It is thus important to have the subject close to the camera, as the exposure must be short to stop movement, and the cost of flash powder is so considerable that one does not wish to use more than can possibly be avoided. But there is another important point to be considered. The human eye approximates to a lens of 10in. focal length and this is the ideal focal length for the photographer's lens, but, if one uses a 10in. lens, the animal will have to be a considerable distance away in order to come fully on the plate. One is therefore forced to compromise by using a lens of a shorter focal length and this immediately introduces the difficulty of bad perspective when the

subject is head-on, although there is no difficulty with side pictures. Personally, I use a 6in. lens, with which the perspective is not too bad, although it may seriously affect pictures which are taken at close range. An example is the photograph of the tiger shown on plate xxiv, which was taken at about 12ft., and which shows bad distortion in the original negative. This distortion has, however, been considerably reduced by enlarging at an angle, the enlarging screen being tilted so that the side of the negative which is too large becomes smaller in the enlargement than the other side.

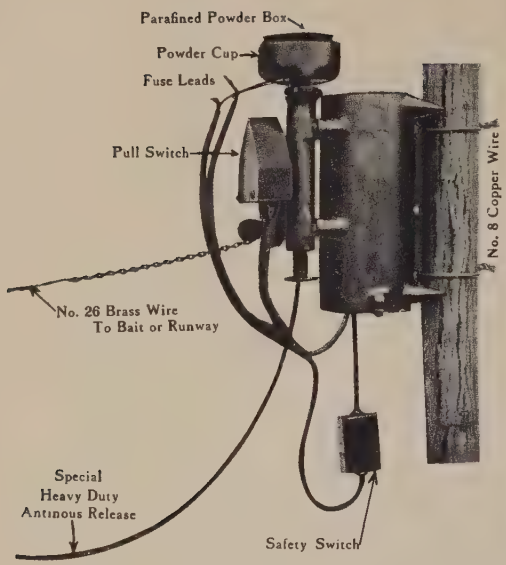
Having now explained the mechanism of flashlight-photography, I will next show how it is applied to actual practice, and this is where the skill of the operator comes in, and where his knowledge of the habits of animals will stand him in good stead.

First, he must decide on the animal he wishes to photograph and the type of picture he requires. To take a comparatively simple case, let us imagine that his ambition be to photograph a tiger in the act of eating his kill. In order to do this, obviously he must find a natural kill or else tie up a buffalo-bait, with a weak rope, so that the tiger can break it and bear his prey off to some secluded spot in the jungle. The kill having been obtained, the photographer should, on no account whatever, allow anyone else to go near it. This is of great importance, since many a tiger kill is ruined by nervous shikaris or *chamars* shouting, or even firing guns, to frighten away the tiger when they follow up the track. The photographer should then approach carefully and quietly in the heat of the day, preferably on an elephant, and should search the whole neighbouring country-side in order to make absolutely certain that the tiger is not lying near by and watching the whole proceeding. This

frequently happened when I first started this work, particularly if I went late in the day, and I used to be astonished at the number of tigers that never returned to their kills again. The reason is now patently obvious to me, but it is a point which is missed by many, and is probably the main cause of failure to shoot tigers from machans.

Having, then, made absolutely certain that the tiger is not in the immediate vicinity, the next step is to arrange one's camera, either on a firm tripod or by affixing it to a tree, at a distance of, say, 15 ft., and then to focus it extremely carefully on to the particular place where it is hoped that the tiger will come and stand. The flashlamps are then attached to convenient trees, or posts erected for the purpose, about 2 feet behind the camera, a little above it, and one on either side. Lastly, the long antinuous release is attached, and the shutter carefully adjusted and tested to give an exposure of, say, 1-150th of a second. Having made quite certain that the shutter is working properly, and having previously tested the battery with an ammeter to see that the electric current is running satisfactorily, the lens is capped, the sheath of the slide drawn, and finally the whole apparatus is most carefully camouflaged with leaves and branches, so that the tiger will not find a suspicious-looking erection near his kill when he arrives. The camera and flashlamps are now ready for action, but for the final acts of removing the lens cap and closing the safety-catch. There remains the completing of the electric circuit by closing the switch, which can be done either by the photographer or by the subject. Provided that it is a moonlight night, that he can spare the time, and that he can sit really still in a machan, which he should quietly erect in a tree near by, it is much more interesting and certain for the photographer

himself to complete the circuit, by pulling a cord—a fishing reel is very convenient—attached to the firing chain, at the moment when he considers the pose to be most satisfactory. Should he decide to do this, it would be as well to tie the kill firmly to the spot, or the tiger may creep up quietly, make a sudden rush, and snatch the kill away before the photographer has had time to pull his cord and so secure his picture. The other alternative is to arrange trip-wires, so that the tiger will himself complete the circuit by tightening the wires when he pulls the kill or approaches from a direction decided upon beforehand. This is, of course, far from an easy thing to do. One must know from which direction the tiger is likely to come, and, by a judicious arrangement of branches, prevent him from coming any other way, without, at the same time, scaring him away from the kill. Then, again, one runs the extreme risk of having the whole chance ruined by some bird, jackal, or other creature coming before the tiger, and thus ruining the whole picture. This will happen many many times, and is such a serious disadvantage of the method that animal-photographers in Africa appear to have abandoned it as useless for lions. It can, however, be used on occasions, as a good many of the pictures in this book prove. For certain subjects, such as tigers on the hunt and other silent nocturnal animals on their nightly prowls, it is the only method in any way practicable. Its use over kills requires a good deal of ingenuity on the part of the operator and it is possible to reduce the risk from other creatures in a number of ways, some of which have already been mentioned in the text of this book. Others will occur to the keen photographer who likes to pit his wits against heavy odds. A method, which I have not tried, but which could probably be used with success in soft ground, would be to dispense


Parafined Powder Box
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No. 26 Brass Wire
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Special
Heavy Duty
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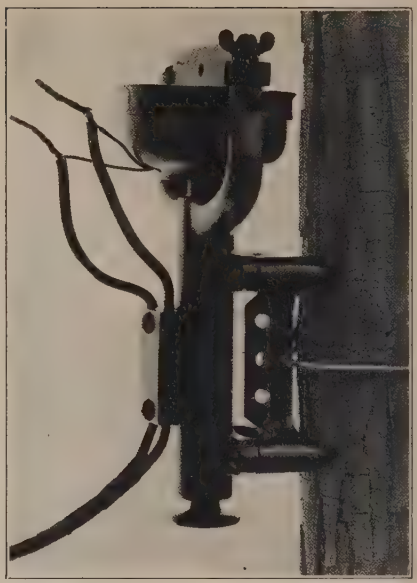
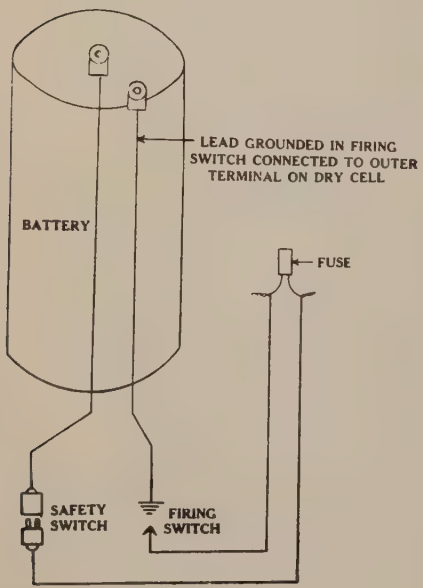
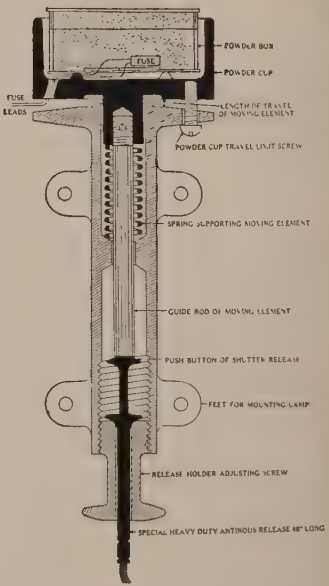



LEAD GROUNDED IN FIRING
SWITCH CONNECTED TO OUTER
TERMINAL ON DRY CELL
BATTERY
FUSE
SAFETY
SWITCH
FIRING
SWITCH


POWDER BOX
POWDER CUP
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FUSE
LEADS
LENGTH OF TRAVEL
OF MOVING ELEMENT
POWDER CUP TRAVEL LIMIT SCREW
SPRING SUPPORTING MOVING ELEMENT
GUIDE ROD OF MOVING ELEMENT
PUSH BUTTON OF SHUTTER RELEASE
FEET FOR MOUNTING LAMP
RELEASE HOLDER ADJUSTING SCREW
SPECIAL HEAVY DUTY ANTINOUS RELEASE 48" LONG

with the trip-wire altogether and to rely on a tread-switch, operated by a weight of, say, not less than 100 lbs., which could thus be fired only by a heavy animal. This would still not prevent the interference of pigs or bears, although it would eliminate the exceedingly troublesome birds and jackals; but, as all my photography has been done in rocky mountainous country, I have no experience of such tread-switches, which cannot possibly be buried in hard rocky soil.

I have now given a brief outline of some of the ways of taking photographs of wild animals in the Indian jungles and there are many others which will occur to the keen enthusiast. I would close this book with an appeal to others who do not enjoy spilling the blood of beautiful animals, many of which are rapidly being exterminated, to abandon the rifle in favour of the camera, the use of which provides all the pleasures and excitements so dear to the heart of the big-game hunter. Indeed, it provides others as well, for, in addition to giving one a far greater insight into Nature and all her marvellous ways, a camera in skilful hands produces pictures of great scientific value, which may give pleasure to many others in a way that mere horns and skins can never do, be they ever so large.

APPENDIX I

Classified table of the animals mentioned in this book according to *The Fauna of British India—Mammalia,* by W. T. Blanford, F.R.S.

Class—**MAMMALIA**

Sub-class—EUTHERIA

ORDER 1—PRIMATES

Sub-order—*Anthropoidea*

Family—*Simiidæ*. *Hylobates hoolock* The white-browed Gibbon

Family—*Cercopithecidæ*

Sub-family *Cercopithecinæ*

Macacus rhesus The Bengal Monkey

M. assamensis The Himalayan Monkey

Sub-family *Semnopithecinæ*

Semnopithecus entellus The Langoor

S. schistaceus The Himalayan ditto.

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ORDER 2—CARNIVORA

Sub-order—*Fissipedia*

Family—*Felidæ*

Felis tigris The Tiger

F. pardus The Leopard

F. bengalensis The Leopard-cat

F. chaus The Jungle-cat

Family—*Viverridæ*

Sub-family—*Viverrinæ*

Sub-family—Herpestinæ

Viverricula malaccensis The Small Indian Civet

Paradoxurus niger The Indian Palm-civet

Herpestes mungo The common Indian Mongoose

Family—*Hyænidæ*

Hyæna striata The Striped Hyæna

Family—*Canidæ*

Canis lupus The Indian Wolf

Cyon dukhunensis The Indian Wild-dog

Vulpes bengalensis The Indian Fox

Family—*Mustelidæ*

Subf. *Mustelinæ*
Mustela flavigula
The Indian Marten

Subf. *Melinæ*
Mellivora indica
The Indian Ratel

Subf. *Lutrinæ*
Lutra vulgaris
The Common Otter

Family—*Ursidæ*

Ursus torquatus The Himalayan Black-bear

Melursus ursinus The Sloth Bear

[ORDER 3—INSECTIVORA]

[ORDER 4—CHIROPTERA]

ORDER 5—RODENTIA

Sub-order—*Simplicidentata*

Family—*Sciuridæ* Sub-family—Sciurinæ

Pteromys spp. Flying Squirrels

Sciurus indicus The large Indian Squirrel

S. palmarum The Palm Squirrel

Family—*Hystricidæ*

Hystrix leucura The Indian Porcupine

ORDER 6—UNGULATA

Sub-order—*Proboscidea*

Family—*Elephantidæ*

Elephas maximus	The Indian Elephant

Sub-order—*Artiodactyla*

Family—*Bovidæ*

Nemorhædus bubalinus	The Himalayan Serow
Cemas goral	The Himalayan Goral
Boselephus tragocamelus	The Nilgai
Tetraceros quadricornis	The Four-horned Antelope
Antilope cervicapra	The Blackbuck
Gazella bennetti	The Indian Gazelle

Family—*Cervidæ*

Sub-family—*Cervinæ*

Cervulus muntjac	The Barking-deer
Cervus duvauceli	The Gond
C. unicolor	The Sambar
C. axis	The Chital
C. porcinus	The Hog-deer

Family—*Suidæ*

Sus cristatus	The Indian Wild Pig

[ORDER 7—CETACEA]

[ORDER 8—SIRENIA]

ORDER 9—EDENTATA

Sub-order—*Squamata*

Manis pentadactyla	The Indian Pangolin

APPENDIX II

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WITH A CAMERA IN TIGER-LAND

CHAMPION

WITH A CAMERA IN TIGER-LAND

F·W·CHAMPION

DOUBLEDAY DORAN